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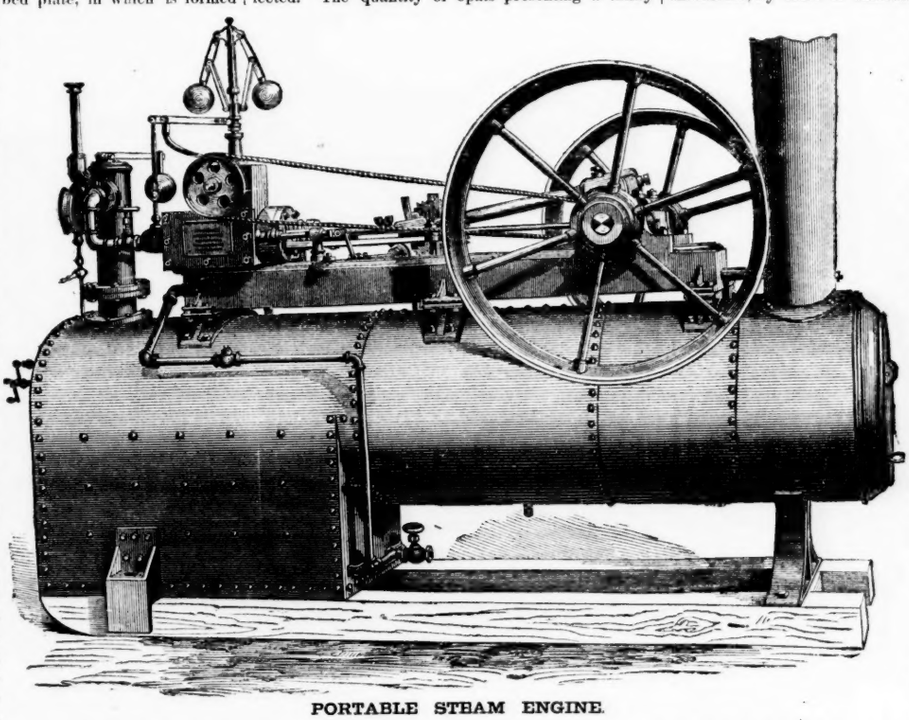
PORTABLE ENGINES.

The present illustration is the fifth of a series—our object being to place before the public, the mining public particularly, various machines of established merit so that at a glance buyres may satisfy themselves which is best adapted to their particular kind of work. Not wishing to do injustice to any one, we would mention here that if there be any claimants for the public's favor whom we have overlooked, we shall be happy to give them a place in the series. The accompanying cut represents the portable engine manufactured by Jacob B. Schenck, 70 Maiden Lane. He claims for it the following merits. The engine is so arranged as to be placed on the top of the boiler, or on a separate foundation; is simple, strong and well proportioned; has a heavy cast iron bed plate, in which is formed the heater, and the bearing surfaces and all the working parts are large and well fitted. The balance pulley is turned on the face for a belt, and is sufficiently large to give the required momentum. A separate or independent force pump is furnished when required, driven by a belt and counter-shaft. The crank shaft is of hammered iron, piston-rods of steel, and composition boxes for bearings. The pipe connections are all of wrought iron. Either the locomotive portable or plain cylinder boiler, is used, but the tubular is recommended when machinery is to be stationary. It also has a good shape for transportation. Complete fixtures, including smoke-pipe of large size, are furnished. These engines are peculiarly adapted to saw-mills.



PORTABLE STEAM ENGINE.

A New "Valley of Diamonds."

When Sinbad the sailor arrived at the Valley of Diamonds he found it filled with serpents and so dread-inspiring that he dare not enter. Throwing lumps of flesh down from the top of the mountain he preferred invading the eagles' nests in order to secure the precious stones which stuck to the meat and were brought up by the birds of prey. We are happy to find that we may now pick up diamonds, garnets, opals, without unusual difficulty, by going to Sinker Creek, near Snake River, Idaho. The editor of the Owyhee *Avalanche* has been there. He says: "The extent of country in which these gems are found borders on Sinker Creek, and is several miles in area. They are not generally diffused throughout the country, but the localities are easily distinguished. Below a certain line they may be collected along the streams and gulches. The belts or tracts of upland containing them are marked by gray and dark colored conglomerate. Some of it answers to the book description of pudding-stone. The more dark and rotten species contain the purest and most brilliant specimens, the same as those sent to New York and San Francisco, which were there pronounced genuine diamonds. Of this variety no large ones have been discovered, but the small ones are countless and readily obtained. Garnets and opals are also found to abound in certain localities with the diamonds—the garnets with them. These gems are mostly common, though specimens of the precious ones have been collected. The quantity of opals presenting a milky appearance is immense. It is well established that diamonds, pure but small, are plentiful along Sinker Creek, and it is but fair to presume, where so many small ones are, there will be large ones discovered. The garnets are small, but the opals are from the size of a grain of wheat to that of a crab apple. The locality in question is surely a fine field for scientific investigation."

A New Freezing Agent—Another use for Petroleum.

Dr. Henry J. Bigelow writes to the Boston *Medical and Surgical Journal* that he has discovered a new anæsthetic in petroleum. He gives it the name of "rhigolene," from a Greek word, meaning extreme cold. It is a petroleum naptha, boiling at 70° Fahrenheit, obtained by the distillation of petroleum, and is applied to the production of cold by evaporation. It is a hydro-carbon, wholly destitute of oxygen, and the lightest of all known liquids, having a specific gravity of 0.625. The mercury is easily depressed by this agent to 19° below zero, and the skin could with certainty be frozen hard in five or ten seconds. "A lower temperature might," he says "be produced, were it not for the ice which surrounds the thermometer. Freezing by 'rhigolene' is far more sure than by ether, as suggested by Mr. Richardson, inasmuch as common ether, boiling only at 96° instead of 70°, often falls to produce an adequate degree of cold. The 'rhigolene' is more convenient and more easily controlled than the freezing mixtures hitherto employed. Being quick in its action, inexpensive and comparatively odorless, it will supersede general or local anæsthesia, by ether or chloroform, for small operations and in private houses. But for large operations it is undoubtedly less convenient than general anæsthesia, and will never supersede it. Applied to the skin, a first degree of congelation is evanescent, but if continued or used on a large scale, the dangers of frost-bite and mortification must be imminent." In 1861, Dr. Bigelow, in experimenting with kerosenes of four different densities, found the lightest of them, the boiling point of which was about 90°, to be an efficient anæsthetic by inhalation.

A Meteor.

A very brilliant meteor passed over the city of San Francisco at twenty minutes past twelve, midnight, April 7. The *Alta* says it appeared to come from a point a little to the southward of the center of the visible heavens, and, passing swiftly to the northwestward, as it approached the earth, exploded like a rocket, throwing off a shower of sparks, which floated eastward for some seconds, giving a bright rose-colored light. There was no perceptible report accompanying the explosion, although the meteor looked to be but a few hundred yards above the earth at the time. The light given off, as the meteor passed through the air, before exploding, was sufficiently brilliant to be noticed on the streets, although the street lamps were burning at the time.

Phenic Acid as a Disinfectant.

At a recent meeting of the Agricultural Society of France, M. Chevreul showed that phenic acid is not a

disinfectant in the same degree as chlorine, but that it prevents the decomposition of bodies with which it is brought in contact. Extensive use is made of this material to destroy the odor of stables. A white powder, consisting of a mixture of phenate of lime and sulphate of soda, is prepared and sold for the purpose. One-quarter of an ounce a day to each horse, sprinkled in the stalls, is sufficient to totally destroy the odor of the place. In England the cost per head does not exceed two dollars a year. Its employment on board of vessels or cars used for the transportation of animals would prove of the utmost value, and in some countries is largely practiced. M. Lemaire has shown that a small quantity of phenic acid, benzine and analine suffices to destroy mycrophytes and a large number of animals belonging to the radiata, insects, mollusks and vertebrata; in fact all of the lower animals fly from the odor of these substances. An aqueous solution containing one per cent. of phenic acid instantly destroys the itch insect. In the case of insects destructive to vegetation, it cannot be employed upon the leaves, as it destroys both the plant and the animal at the same time, but mixed with coal-tar, earth and sand, it can be applied some distance from the roots. When phenic acid is introduced into the earth or a heap of manure, animals which appeared to be devoid of animation suddenly wake up and disappear with marvellous rapidity, and by impregnating the air of a granary or magazine in which wheat or meat is kept, all insects are excluded. The odor of the acid disappears very rapidly on exposure of the grain or meat to the air, so that no trace of it remains. It thus appears that for stables, granaries, magazines, and all places liable to be infested by insects or lower animals, phenic acid is one of the safest and most economical of the remedies hitherto proposed. The bi-sulphide of carbon, which has very similar effects upon animal life, is itself so disgusting as to preclude its use near human habitations. It has, however, been extensively employed in granaries to destroy the weevil, and for the vaporizing of seed previous to sowing. Benzole, benzine, coal naptha, coal tar, some varieties of petroleum, and the products of the distillation of pit coal, gum benzoin and of some kinds of resin, yield phenic acid in greater or less quantities. The value of coal tar as a disinfectant can be traced to this source. Phenic acid is sometimes called carbolic acid, hydrate of phenyl and phenol. It is capable of very extensive application, and may be produced cheaply. Coffee grounds have also a disinfecting property, and have long been used in the sick room and for the purification of the air of hospitals. Whether the oil of wintergreen would destroy the larvæ of insects has never been observed, but as the distillation of this class of bodies yields phenic acid, it would be worthy of a trial. It may be that destructive distillation is necessary in order to prepare the peculiar principle so obnoxious to the lower animals.—*Exchange.*

Ærolites.

Humboldt says that "ærolites revolve around the sun in myriads in a closed ring, or zone, within which they all pursue one common orbit." In Yale College Cabinet is one of these bodies, weighing 1,635 pounds. It contains, by analysis, iron 90.02 to 92.912, and nickel 8.80 to 9.674. At Bahia was found one weighing 14,000 pounds, and a still larger one in Chaco Otumpa, in South. America, weighing 40,000 pounds. The most remarkable fall of ærolites was November, 1833. It extended from the equator to Greenland. Professor Olmsted, of Yale College calculated that 240,000 fell under his observation in nine hours. Last month one of these bodies was picked up near Bear Creek, Colorado. It weighed 500 pounds. Its composition appears to be the native metals of nickel, cobalt, iron, and a trace of copper, unequally distributed in the mass. These metals are aggregated and highly crystallized. A coating of the oxide of iron half an inch thick has taken the place of the shining black crust which is observed on ærolites when they first reach the earth. Its specific gravity is about 7.3 to 7.8.

Metallic Sand.

Travellers along the sea-shore of New Zealand have to wear vails to protect their faces and eyes from a fine metallic sand which rises with every puff of wind. This sand proves, upon analysis, to be the purest ore of iron known. Its composition is: peroxyd of iron, 88.45; oxyd of titanium with silica, 11.43; loss 12. Experiment shows that the ore yields in the furnace 75 per cent. of the best iron; or by cementation an excellent quality of steel. The smelting was done in a little furnace with a hearth seventeen inches in diameter and ten inches deep. A ton of fuel (coke) made a ton of metal titaniferous, which, added in the proportion of 5 per cent. to ordinary steel, transformed it to first quality.

Magnesium.

Magnesium is made in Boston from dolomite, or magnesian limestone, by the Sonstadt method. The principal use for the metal is to burn for light, the actinic power of which is 1-36th that of the sun, though the intensity of the light is 1-525th that of the sun.

Mining Summary.

California.

Nevada.—A correspondent of the Sacramento *Union* writing from Summit City, on Meadow Lake, April 18th, gives the following intelligence: Being satisfied that many readers are interested in the future prospects of this new mining district, and also being aware that many persons throughout this State and the State of Nevada design coming here during the ensuing Summer, for the purpose of opening different kinds of business and to take part in developing the rich mining regions of this district, and as many reports are in circulation in regard to the depth of the snow, the state of the roads and the amount of prospecting that is being done in the district at the present time, and none of which agree, I propose to give the facts in the premises. In the first place, the snow at the present time is from four to five feet in depth on the level, but in many places where it has drifted it is from eight to twelve feet in depth. But should there be a continuation of the same kind of weather that we have been favored with for the past ten days, three weeks will suffice to rid us of all snow excepting the deep drifts, which will not at all interfere with business. At the same time, we would not wish to be understood to be advising any one to come here yet, unless they come to make preparations for Spring business. Property in the business part of the town is held at a high figure, while rents are enormous—a building twenty by thirty readily renting for $150 per month, while small cabins twelve feet square command from $30 to $50 per month. The roads leading to the town of Meadow Lake are in such a condition that it is impossible to get any lumber in from any of the mills, so that to increase our tenements at the present time is impossible; and no doubt several weeks will elapse before anything can be done in the way of improvements. But few of the mines of the district are being developed. The Pacific mine, which is located within the limits of the city and has, during the greater portion of the Winter been taking out ore which was worked in the mill of Winton & Co., and which worked at the rate of $53 per ton, has suspended operations for the present time, the company having contracted for the construction of a large 40-stamp mill which, we understand, will be commenced in a few days. The Excelsior Company, which is the oldest location in the district, and which has been developed to a greater extent than any of our mines, has during the Winter been lying idle, but will in a few days start up again. This company also will erect a 12-stamp mill as soon as the machinery can be got in. The prospects of this mine when last worked were very flattering indeed. The Mokawk mine, which is thought to be the richest and most valuable mine in the district, will put up a mill on their mine as soon as it can be done. Preparations are being made by several other companies to erect mills in the Spring. The California Company is at the present time taking out excellent ore from one of their mines, which will be crushed in their mill. The Allen Company, the Lizzie Howard Company, Ohio Company and some dozen of other companies are at work; all of which are getting very flattering prospects. . . . Under date of April 7, a correspondent of the New York *Tribune* gives further particulars concerning this new district: The ledges have no general direction, running north and south, east or west, at every angle with, and crossing each other, resembling in that respect the mines of Germany and other European localities. Its riches are not in gold alone; argentiferous galena, malachite, copper pyrites, are found in abundance, with small quantities of platinum, nickel, cobalt, etc.; also various and beautiful mineral specimens. The quartz differs materially from any ever before discovered in this State; it contains much iron, and is found in a decomposed porous condition between the wall rock of granite or gneiss, no clay walls having as yet been discovered. Some of the granite contains large quantities of gold, one mine having yielded as high as $200 per ton. Owing to the presence of large quantities of sulphates, most of the rock will have to be roasted. This process, however, will be but a small item of expense, as the mountains are covered with a primitive pine forest of enormous growth. This is probably the greatest elevation at which gold has ever been discovered. The location of Summit City or Meadow Lake, as it is now named, by recent legislation, will exceed 9,000 feet above the level of the sea. The town, as a permanent abode for man, ranks third in altitude among the cities of the world, one in Asia and one in the Alps exceeding it. The ridges about us bear aloft perpetual Winter, and where the snow drifts deeply it does not disappear but remains through the Summer. Peak upon peak the mountains rise in grand confusion. Standing upon some elevated place, the beholder is struck with awe at the gorgeous sublimity of the vast panorama spread before him. Thousands of feet below him he sees the valley dotted with fairy-like lakes, fed by winding streams which tumble over the mountain-sides and echo against the rocks beyond, while frowning far above him are the rugged summits—highest of all, Fremont's Peak; next Castle Mountain, holding against the sky its gray towers and battlements, as though some prince of old had used it as a dwelling place—mountains which will gain a wide renown when eloquent pens shall find their way hither, and write their praise. There is a somber, sacred silence about these scenes. Not a product of the hand of man or vestige of humanity is visible; the song of the linnet and robin in the valley mingles with the hiss and roar of the avalanche above—no noise but Nature's own.

"There is a voice in Nature, holy, stranger."

The following is an extract from a recent report of exploration of the mountains of this district: "A reconnoissance of the Sierra range between the parallels of 30° and 38° North, recently undertaken, shows that this portion of the State of California, previously unknown and unexplored, contains the greatest mass of mountains, taking width and average elevation into consideration, which has yet been discovered within the limits of the United States—and perhaps in North America. At one point in the field of view there were observed five mountains of over 14,000 feet elevation, and about fifty peaks, which rose to a height of over 13,000 feet. The culminating point of the Sierra in this district is believed to be not less than 15,000 feet above the level of the sea, which is considerably higher than Mount Shasta, hitherto regarded as the most lofty peak in the United States. Prof. Whitney also states that it is by no means impossible that some other point in the range may be even more elevated." The climate of this location is the most delightful of any I was ever in. The air is clear and bracing, while the sunlight imparts a healthful glow to the whole system. There is no sickness—no prevailing disease. Living is not expensive, although no grain can be raised, owing to the shortness of the Summer, the ground being bare but about four months out of twelve. During the Winter, snow falls to a depth of 10 to 20 feet in depth, yet 15 miles from here everything is green, and the fields waving with grain. With all this snow the winters are not severe, the thermometer never falling to zero. Locomotion is accomplished entirely on snow shoes of the Norwegian pattern—long strips of wood turned up in front. The rate of speed accomplished on these down the mountains is incredible. Such is a feeble description of a country which is almost unknown even to Americans, but which will prove valuable to the world, it being unexceeded in mineral wealth, climate, scenery, etc., abounding in relics of the past ages and abroiginal tribes, of which the rocks bear testimony upon their faces. . . . A North San Juan correspondent of the *Transcript*, sends the following interesting mining items: The Black Brothers, of French Corral, cleaned up from their diggings, situated on Empire Flat, on last Tuesday, between $6,000 and $7,000 from the top dirt, after a run of about two weeks. The dust, in two gold bricks, is now to be seen at Block & Furth's banking house in North San Juan, and is worth $19 50 per ounce. These claims, like the old Empire Co.'s adjoining, have been paying big for years. The bottom dirt is a very hard cement, which can only be worked successfully by blasting or by mill process. There is no mining locality on this ridge that pays more uniformly than at French Corral. At Birchville, the San Joaquin Company cleaned up on Friday, after a run of twenty days, the sum of $11,726, and only cleaned a portion of their sluice. These claims are owned by Messrs. Morgan, Jenkins, Stidger and the Ditch Company, who own the largest tract of mining ground on Johnson Hill. They have been opened but a few months, having run a bed rock tunnel of near 800 feet. This clean up is about an average since these claims have been opened. This company's ground is on the same lead of the celebrated Irish and American Company. Birchville is now as lively a little camp as there is in the county, and the diggings are as rich. The American Company's claims at Sebastopol, maintain their old reputation, and are yielding to their owners an immense amount of treasure. J. S. Crall, of the American Company's claims, has invented and put in successful operation a pan for grinding sand and sulphurets, which is pronounced by competent judges to be the best ever produced in this State, and with a little improvement, which the inventor is now making, will, it is thought, supercede all others now in use. Crall has a fortune in that pan alone. The Golden Gate Company, at San Juan, are working some rich dirt, loosened up by a big blast a short time since. Kerr Phelan & Bros., on Shady Creek, are cleaning up the bed of the creek, and in four days run took out $905. . . . Copper has been found within a few miles of Nevada City. The whole country around Greenhorn and Bear river, and also in the vicinity of Barker's ranch has been taken up. Some splendid specimens of the ore have been found, and excells any discovered in the lower part of the county a year or two ago. . . . A great excitement is raging in Little York township, says the Nevada *Gazette*, caused by the discovery of a copper ledge, believed to be immensely rich. The ledge was discovered several months ago, by John Thorp, while hunting on the other side of Greenhorn. The ledge has been traced from Thorp's location in a southerly direction to Bear river, and northerly to Deer Mountain, within three miles of Nevada, a distance of five or six miles. Numerous extensions have been located, and the country between Greenhorn and Bear river is full of prospectors.

Tuolumne.—We extract the following from recent Jamestown correspondence of the San Francisco *Mining and Scientific Press*: Most of the productive mines in this district are those situated on the "mother vein," as it is here called, or the great range of quartz running through the country from northwest to southwest. The principal mines on this range are the Rawhide Ranch, Golden Rule, and that of Jno. App & Co. At the Rawhide Ranch a fine new 20-stamp mill is in course of erection by the present proprietors, who are represented by Capt. Johnston. It is to be driven by steam, the engine used for driving the machinery at the last Mechanics' Fair in San Francisco, having been purchased and sent out for that purpose. Two of Wheeler's flat-bottomed pans are being put in to work sulphurets. The mill is by far the finest yet built in this county. An incline has been sunk on the vein to a depth of 130 feet, a drift of 130 feet having been run at a depth of 120 feet. The shaft is large and well-timbered, and everything about the mine wears an appearance indicative of permanence and reliability. The vein has a dip of thirty degrees to the northeast, and is about twelve feet wide in the lower level. No rock has been crushed since the mine came into the hands of the present owners. The Golden Rule Company have completed a fine 15-stamp mill, erected since my last visit. It is driven by water-power, furnished by an overshot wheel fifty feet in diameter. I was informed by Mr. A. S. Phifer, the superintendent of the company, that the quartz crushed in the old mill during the past year paid an average of $37 50 per ton, while the expense of mining, hauling, and crushing averaged $19 50 per ton. They are now taking out some of the best rock that the mine has ever furnished, and its prospects were

never better. The mine of John App & Co., has reached a depth of 130 feet below the tunnel, and looks better than ever before. It has been paying from twelve to fifteen dollars per ton. The mine has been conditionally sold for $120,000, but Mr. A. expresses the hope that the purchasers will fail to comply with the conditions, as the mine is evidently worth more than that sum. Half a mile northwest of the Rawhide Ranch is the Chapparal Hill claim, consisting of 1,480 feet on the "mother vein," and is owned by Messrs. Mitchell & Oliver, who have sold it conditionally to Mr. C. T. Meader, at whose expense it is being prospected. A tunnel has been driven northward from a gulch in the middle of the claim, a distance of 300 feet. Sixty feet from the mouth of the tunnel a shaft is being sunk which is now ninety feet deep. The paying portion of the vein is about three feet wide at the top, while the shaft, six feet wide, is wholly in at the bottom. The croppings of the vein show gold throughout the whole length of the claim. The rock from the bottom of the shaft is looking well. North of the Chapparal claim, and adjoining it, is that of Quimby & Co., of 1,000 feet. The "pay" is here confined to a stratum on the east side of the vein, which, at the surface is only about two inches thick, but increases at a depth of forty feet to a thickness of one foot. The Sable Mountain Tunnel Company have abandoned their old tunnel at Humbug Hill, on account of its inconvenience to most of their ground, and have run a new incline, 1,000 feet northwest of the old one. It is now 551 feet into the mountain, and connects southward with the old works and drain tunnel. The claim has been paying well for the past year. The claim of Heslip Brothers at Quartz Mountain, the location of which was more fully described last spring, has been opened to a depth of forty feet, producing rock of a character very similar to that from the Golden Rule, being principally slate, with thin streaks of quartz. It has paid, as I am informed by Mr. B. F. Heslep, from twelve to fifteen dollars per ton during the past year, and seems to be constantly improving. The thickness of the vein at the bottom of the shaft is about four feet. Negotiations are said to be on foot for the sale of this mine to some San Francisco capitalists, who will proceed at once to open it on a large scale. . . . Nimann & Co.'s mine seems to be in about the same condition as a year ago, the proprietors still failing to agree among themselves; and being all short of capital, work goes on very slowly. I noticed a new engine on the ground, however, ready to be put up for hoisting purposes. This will make the working of the mine a much more economical matter. . . . A side vein, east of the principal Carson lead, was discovered in the latter part of last August by Mr. John Knox. His works are situated about half a mile due south from Heslip's. A shaft has been sunk to a depth of 74 feet, and a drift 60 feet long has been run, disclosing a vein from four to ten inches thick, dipping to the eastward at an angle of about 10 degrees. Several tons of the rock have been crushed at Heslip's mill, paying from $25 to $60 per ton. . . . The Eagle Gold Mining Company of Blue Gulch, near Jacksonville, and some six miles south of this place, has one of the most promising locations on the Carson lead. Mr. Peter Musser is superintendent, and most if not all of the stock is owned by persons residing in Philadelphia, Pa. This claim is admirably suited for working. A tunnel 125 feet long, run by former owners of the mine, opens the vein at a depth of 112 feet. North of this tunnel is a chimney of rich ore about three feet wide and 175 feet long. The chimney south of the tunnel has been worked out down to the level of the tunnel; but the indications on the surface would seem to show that it is about 200 feet long. At the end of the tunnel a chamber has been excavated of sufficient size to accommodate a "whim," and Mr. Musser has sunk a shaft on the vein to a depth of 90 feet. The first quartz struck was at a depth of 30 feet, and in the bottom of the shaft the vein is three feet wide, yielding as fine quartz as I ever saw, estimated by Mr. M. to pay $50 per ton. The walls of the vein are very smooth, and well defined, giving strong evidence of the permanency of the vein. The company own an excellent water-power, and have erected a very good 10-stamp mill, driven by an overshot wheel of forty feet in diameter. About a mile and a-half southeast of the Eagle, and near the town of Placerville, is the mine of the Ohio Company, of New York, Mr. Kelly, superintendent. The vein has been opened by a tunnel 400 feet long on the "lead," and to a depth of 100 feet below the surface. The tunnel is connected with the surface at its northwest end by an air shaft; while at a distance of 250 feet from the mouth Mr. K. has begun to sink below the tunnel. At this point the three veins, which together constitute the Carson lead, seem to come into one. The best paying portion is on the eastern wall, and is about four feet thick, and is estimated by Mr. Kelly to pay from $9 to $25 per ton—average $10. The mill of 10-stamps is driven by a wooden turbine wheel, which does not seem to work well. Two of Prater's concentrators are in use, and two of Knox's pans. Everything about the mill, except the power, seems to be very good.

Eldorado.—A travelling correspondent of the *Mining and Scientific Press*, gives the following intelligence: The Mansfield is a claim but recently located, and owned by Messrs. Frost, Carothers & Co. It has a lode from nine to ten feet in width, extending from south to north along the side of one of those mountain ridges which everywhere abound in the vicinity. The quartz is of a bluish cast, containing more or less of the sulphuret so frequently spoken of and peculiar to this district, and lies in two veins near the walls, which are a species of slate, the space between the quartz veins being occupied by a sandstone or metamorphic slate, somewhat similar to that found in the Blue Ledge as formerly described. An incline follows the lode down to the depth of forty feet at the angle of its eastern dip, exposing ore along the different points of its line, containing many small particles of gold, which does not require the practiced eye of an adept to discover. This lode is well situated for working, being convenient to a 20-stamp mill, where they can have their rock crushed as soon as it is taken from the mine, which will enable the company to prospect their claim to greater depth. They have an abundance of wood for timbering, and are making preparations to pursue the work of development the coming summer with renewed vigor.

Mariposa.—From the *Press* we glean the following items: Mexicans over in the vicinity of Jimisal, in that county, last week found a nugget of gold worth $4,550. It is one of the largest ever found in that county. Bruce & Washburn cleaned up at their mill, on Buckeye, last week, the result showing that the quartz paid an average of twenty dollars per ton. Encouraging accounts have been lately received from Hite's Cove. The vein owned by John Hite and Wynants, continues to yield at its usual rate. They have a vein 8½ feet in thickness, and paying regularly from $60 to $80 per ton. A writer in the Mariposa *Gazette*, speaking of the Willametta copper district, in that county, says that a vein fifteen feet in width was struck on the Brummett lode, at the depth of a few feet. Haskell, at his works on the Chowchilla, last week, smelted, in twenty hours, 5,122 pounds of copper from the Buchanan claim. The new furnace, at the smelting works of Henry & Co., at James' Ranch, is in operation. The operator, Desorman, turned out seventy-five pigs of copper from Sunday morning until two o'clock Monday afternoon. The furnace is a complete success; and a number of others will shortly be erected. Snediker, who is working the Green vein, is getting out the finest and richest ore in the district. A furnace will soon be erected on the ground for smelting purposes.

Plumas.—The Quincy *Union* of April 14th, says: Wood's claim has been worked for the past three months, paying on an average $12 per day to the hand. Moulton's claims have been paying $14 per day to the hand, for the past four months. Ripple & Bohemo cleaned up, a short time since, $7,000. They expect to make another run before the winter season closes. They work but four men. Anderson & Co., are making $10 per day to the hand. The company working the "Bourbon" ground are making $8 per day. O'Brien's claim, on Lost Creek, is paying well. Mallady & Feeny, on Sly Creek, are averaging $40 per day. A majority of the miners in this locality are pretty well satisfied, so far as the profits of mining are concerned."

Siskiyou.—The Yreka *Journal* of April 13th has the following in regard to a remarkable land slide in its county: An immense slide of ground descended last week from the top of the mountain south of Deadwood creek, damming up the creek sufficient to create a reservoir sixty feet deep. The slide came in a solid body, slipping along on a soapy clay formation, upon which the whole mountain rests. The slide travelled a distance of about a quarter of a mile, and held together so compactly that it even moved the sluices and logs out of the creek without damaging them. It is supposed that the slide was started by the drifting underneath in Steele & Warnock's claim, together with the late heavy rains. The claim is partially covered up, to such an extent that it would take ten men probably three years to ground-sluice it away, and such an undertaking would also seriously damage several fine ranches below on Deadwood and McAdams creeks. For two days and nights the creek was held above the slide, where it was fifty yards from bank to bank, with about 1,000 inches of water running. Another such rain storm as we had during the first of the month would completely level the mountain, as it is cracked open in several places, and has been seen to shake and tremble in many places at different times.

Nevada.

Reese River District.—Eight bars of bullion, valued at $7,132 99, taken from the Savage and Whitlock claims, was shipped by the National Bank of Austin to Virginia City. . . . The *Reveille* of April 24 is informed that certain parties at Austin are endeavoring to organize a strong company for an adventure into Arizona. There are thirty-five men already enrolled, with a good prospect of a large accession. They contemplate leaving town on or about the 1st of May, under the leadership of Capt. T. W. Brooks. . . . The same paper has the following, in relation to the U. S. Telegraph line: John. W. Coleman, superintendent of the construction of the United States Pacific Telegraph line, who arrived yesterday from Salt Lake City, informs us that the poles are being placed on the route between this city and Salt Lake, and that the section of the line between Virginia and Austin will be completed and in working order in ten or fifteen days. . . . Quite recently, very important discoveries of copper have been made in various localities in the Reese river region. However extensive the deposits may be, or rich and valuable the mineral, they will continue valueless until the railway shall stretch through the country, affording the means of transporting the mineral cheaply to reduction works. But the iron horse will certainly come, and almost upon the instant of its advent vast fields of treasure will be laid open to commerce and the arts. There are now lying upon our table several samples of copper ore, just brought into town by G. J. Tannehill. It was discovered in the northern limits of the Shoshone range of mountains, seventy miles north of Austin, and about four miles from the Humboldt river. The discoverer named the district Battle Mountain district, from the circumstance of a bloody battle having been fought there nine years ago between a party of twenty-two immigrants under the command of Capt. Pierson, now living on Reese river, and a large force of Piute Indians—Tannehill being one of the victorious immigrants. The ledge called the Troy, from which the sample was procured, is, according to Tannehill, thirty feet thick; indeed, he told us privately that he was satisfied it was fully sixty feet thick, but his native modesty prevented his giving us full figures, containing numberless strata, about an inch in thickness, of beautiful red oxide of copper. In addition to the Troy, seven other ledges were discovered and located. One of the number, named the Heath and Sinclair, is described as fifteen feet thick, exhibiting a mass of splendid copper ore. The mineral (red oxide) is among the most beautiful of the copper ores, and the specimens before us are encased in thin layers of malachite. . . . The same paper of May 4 gives the following concerning the Manhattan Company's works: During the last few weeks a spacious building has been erected, completely enclosing the opening of the North Star and Oregon mines, as well as the powerful engine, boiler and new hoisting gear now in the course of construction. The massive frame and reels which have been erected for working the mines jointly, have no superior in the district. Work is steadily pushed on the mines, and the Oregon, which has been opened through an incline of great depth, is exhibiting a splendid ledge, and the ore extracted in the course of exploration has already produced a large dump. The North Star keeps pace with the Oregon, and is daily improving in appearance; and as the drifts are pushed in marvels of treasure are disclosed. On the surface lies a large pile of its wonderfully rich ore, exhibiting ruby in almost every piece, and looking as though the heap had been sprinkled with blood. The pile will be permitted to accumulate until there is at least a two months' supply ahead for their large mill. We found the general agent of the company, Mr. J. F. Boyd, on the ground. The works of the company will be, when completed, the most extensive and systematic in the district. . . . Concerning the Roanoke mine, which belongs to the New York and Lander Co., the *Reveille* states: It lies slightly up the hill, and eastward of the Manhattan Co.'s works. We entered the house covering the mine and hoisting works, and noticed the "Little Giant" working with the energy and ambition of a 500 horse-power. The vertical shaft has been sunk to the depth of two hundred feet through rock of adamantine hardness, which, however, during the last several days, has changed its character, and is apparently softer. The shaft gives out a fair volume of water, which is easily discharged in buckets. Although the depth of the shaft is considerable, the ledge has not yet been struck, and it is estimated that the work must be driven some twenty-five or forty feet deeper before it will be developed. . . . A remarkably rich bed of ore has been struck in the Pennsylvania ledge. The mine belongs to the Empire and Silver State Mining Company. A bright future is expected for Yankee Blade section. . . . W. P. Prichard, General Agent of the New York and Reese River Company, has obtained from the original Yankee Blade mine, belonging to that company, a handsome specimen of ruby silver, that may fairly be claimed as the premium specimen of the Reese river region, or, indeed, of Nevada. It is fourteen inches long by ten inches wide, and about five inches thick, and presents on one side a gorgeous mass of light violet colored ore, of high metallic lustre, dotted and flecked at every point with dark rich ruby, and on the other side there are little clusters of iron pyrites, rich in silver, blended with dark rich silver sulphurets and ruby.

Eastern White Pine District.—We learn, says the *Reveille*, that quite an extensive mining district has been organized under the above title. It lies on the eastern side of the White Pine range of mountains, and is eight miles east of the original locations in those mountains. John Frost, a pioneer of this district, and one of the owners in the original Oregon Company, has just returned from the district, and reports very favorably of the advantages of the new location, both as regards the character of the mineral and the abundance of wood and water. According to his statement, the veins discovered and located range from four to ten feet thick, and the mineral brought in by him was procured, in every instance, from the croppings. Following is a list of the assays of the ore deposited with J. R. Murphy, of the assay office of the National Bank: Sailor Jack, $62.83 of silver per ton; Tom Jones, $56.55; Summit Queen, $59.69; General Lyon, $67.54; Little Phil, $31.42; Bobtail, $126.70; Bay State, $117.79. Another batch of ores from the same district was assayed by Murphy for C. F. Horn, with the following result: Old Rye, $108.23; Indigo, $212.67; Gondola, $102.09; Cleopatra, $130.35. These latter samples were obtained from locations made by Mr. Lindsley, at present in the district. The ores are described by the assayer as being generally argentiferous galena and cupriferous silver, combined slightly with antimony.

Black Rock District.—Thad. Mason, a former resident of this city, says the Virginia *Enterprise*, has arrived from Smoke Creek, where he has been residing for the past fifteen months. He brought in with him some very fine specimens of quartz rock, and also some tin ore, which he designs to have fully tested. He speaks of some very rich quartz lodes that have lately been discovered in the Black Rock district, and thinks that when they are fully developed very fine ledges will be opened that will be second to none in the State. . . . The S. F. *Flag* of April 28 says: From parties in this city who had just returned from the Black Rock mines locality, we learn that the richness of the recently discovered ledges found in the vicinity is thought to be beyond any precedent on this coast. It is asserted most confidently that the rock found there contains such vast quantities of silver and gold that, to tell the facts for truth would but serve to stamp the narrators as madmen. But facts are facts, and the parties interested say they are content to let time vindicate the validity of their statements. During a prospecting tour of six weeks the party made many valuable discoveries, among the most important of which were tin—a sample being now submitted for assay in this city. A boiling spring has also been found in the immediate vicinity, discharging a volume of water sufficient to run an eighty stamp mill. This water, on becoming cold, is said to be very palatable, and entirely free from any mineral or medicinal impurities or mixtures. The country, for miles, shows volcanic action, and is entirely devoid of timber; but as Honey Lake Valley is but a little over one hundred miles to the westward, the transportation of rock will be neither difficult or expensive.

Gold Mountain District.—The Reese river *Reveille* of April 17 thus mentions the developments of

this new district: Leander Morton called at our office yesterday with a number of handsome samples of quartz from the Gold Mountain district. The district, of which we have heard slight mention, was, it would seem, discovered and organized in the month of February, 1865, and Mr. Morton was elected Recorder. It lies seventy-five miles west of Austin, and about thirty-five miles due south of West Gate. The specimens of the ore brought in were taken from a vein three feet thick, at the depth of fourteen feet, and are of two kinds, one of the samples being snow white quartz, presenting to the eye pure gold in tiny nuggets, and in delicate thread-like filaments; the other is a brownish colored quartz, very much decomposed, and may be readily crushed in a mortar, and is also rich in fine particles of gold. We learn from Mr. Morton that nine ledges, all of good size, and showing a similar character of quartz, had been located in the district. Assays of the ore have been obtained which exhibit glowing figures.

Washington District.—The *Reveille* of the same date says of this district: We have just received a brief note, accompanied by a package of ore obtained from several ledges which had recently been discovered and located, named the Exchequer, internal Revenue, Finance and Casket. Our correspondent thinks there is no undeveloped property in the region that can surpass it in the size and uniformity of the veins, and in the quality and quantity of the ore; and the fact that it is in the immediate neighborhood of wood, water and building material, gives it additional value. The samples of ore sent were procured from the croppings, and are good looking and of the sulphuret variety, and one piece of the quartz seems to contain gold.

Excelsior District.—From J. J. Roberts, just in from Excelsior, says the *Enterprise*, we learn that the snow is very rapidly melting off, and is not over six feet deep at present. At that rate the Excelsiorites will see what to them has long been a stranger—bare ground—before many weeks. At the earliest practicable opportunity Roberts will start his line of stages, running into Meadow Lake, forming a connection with the Pioneer line of stages for California. The emigration to this deservedly famous district is already strongly setting in, and before next winter's snows we may well expect rich news from there.

Gold Hill.—The editor of the Virginia *Enterprise*, having visited the mines of Gold Hill, relates his experience there. The first mine visited was the Challenge. This valuable subterranean institution, under the efficient superintendency of L. U. Colbath, Esq., is progressing admirably, as usual. The sinking of the main shaft has been discontinued for the present, but it is proposed to proceed with it again soon to the depth of seven hundred feet. But little work is being done at the lower level of the mine, the ore being taken from the upper levels, most of which is crushed at the Comet mill. In passing through this mine, we noticed with pleasure the excellent manner in which it is timbered and secured, all of the worked-out portions being well filled in with waste rock, precluding the possibility of any serious caves. From the Challenge we proceeded to the Yellow Jacket mine, which employs about one hundred and eighty men, and is most excellently managed. Piloted by the Superintendent, J. B. Winters, we descended the new or south shaft of the mine to the lower level, 360 feet from the surface, being let down about as smoothly and rapidly as we could be without being let go altogether. Fifty feet from the shaft we came to the east wall of the ledge, which, together with the ledge itself, pitches cast at an angle of forty-five degrees. From here the main drift carried us some 350 feet further west, through vein matter composed of quartz and porphyry, with here and there a streak or body of excellent pay ore among it. This drift has not, as yet, cut through to the west wall—if the Comstock really has such an arrangement bounding it on that side—but near the end of it is a large body of rich ore which is being extensively worked, and which is found to increase in size as it becomes more and more developed to the southward. At this point the mine is not very well ventilated, and the air is, therefore, very warm and oppressive, but another drift will shortly connect with this one, creating a good draft of cool air. The men were all working stripped to the waist, and sweating freely; among them we met several of our brother miners of Como. They were certainly working among better paying ores than they did in the mines around Como, and at better wages, to say nothing of being able to procure good square meals, which they didn't always get over there. This mine is a pattern of neatness, order and good workmanship, being splendidly timbered, and the drifts high and roomy. There is but little water to contend with, an hour's working of the pump each day keeping the mine free. The pump is twelve inches in diameter, which lifts the water 255 feet, at which point it is discharged through the Gold Hill tunnel. The mine is everywhere well secured, and the worked out places filled in with waste rock in the most systematic manner—highly creditable to the management.

Clan Alpine District.—Situated about fifty miles this side of Austin, on the Overland road, is, says the *Enterprise* of April 21, among the most promising of our outside mining districts. It has an abundance of the very best of wood and water, and for beauty of scenery, convenience of locality and healthfulness of climate, it is unsurpassed by any district in the State. A New York company have purchased a number of the many mines found in that locality, and under the superintendence of Mr. Ingalls, they have erected a fine ten-stamp mill, which is now about ready to commence work. They have secured the services of Mr. R. F. Grigsby to take charge of the amalgamators. They are now taking out ore from one of their ledges, from which they have had very flattering returns by repeated assays. A town site has been surveyed and a map made, and everything is in complete working order.

The Comstock.—We extract the following mining intelligence from the Virginia *Enterprise* of May 23d:

Information having been received at the office of the Burning Moscow Company that the superintendent and employees of the Ophir Company have drifted into the mine of the aforesaid company, and are now taking ores therefrom, the Moscow people have served a notification upon the Ophir folks, reminding them that the injunction obtained in this city by the Moscow Company restraining the Ophir Company from working in ground claimed by the Moscow Company, still holds good. They therefore notify the Ophir Company that the Company and its Trustees will be held responsible for damages, and for all ores extracted from the ledge of the Moscow Company.

Idaho.

A correspondent of the Sacramento (California) *Union* gives the following sketch of the country, and important information relative to freights and other matters: "Idaho Territory, as created by Act of Congress, is clearly marked out on all late maps, and its boundaries have come to be well known, being arbitrary lines and natural boundaries. The Idaho of early days was the Salmon river mines and that part of the Territory reached by the Columbia river and the Upper Snake river, Lewiston being the principal town and the head of navigation. That region is now comparatively deserted, and attracts no outside attention. The original mines, being surface diggings, have been exhausted. These will hereafter attract more attention than at present for their mineral-bearing veins, and prove but little, if any, inferior to other more favored parts of the Territory. As this part of the Territory failed, prospecting was continued to the southward, and the Boise Basin mines soon began to give Idaho the prominence it has since occupied. Idaho City of to-day—the Bannock of '63—is about the centre of this region, and previous to the past year it was famous for its placer mines alone, which have been very extensively worked, yielding many millions of gold, and are yet extensive and good for many more, supporting a large population. Indeed, the principal part of the inhabitants of the Territory are in the Boise Basin, as this district is generally called. Geographically, the area occupied by this basin is small, and, looking at the map, covers an insignificant part of the Territory, and lies between latitude 43½° and 44½° north, and longitude 37° to 39° west of Washington (Greenwich 114° and 116°). Commencing in the fall of 1864, many exceedingly promising gold and silver bearing ledges have been found in these mines, attracting a large amount of Eastern capital, which has been spent principally in bringing mills across the Plains and erecting works for crushing and reducing the ore, and up to this time a comparatively insignificant part of their investment has been spent in developing their ledges. The amount of money spent in the works gives assurance that large sums will be spent in the future in developing their mines. The towns in this district are: Idaho City, Placerville, Centerville and Pioneer City. Within the same latitude, 43½ to 44½, and east of longitude 38, lies a district known variously as South Boise and Rocky Bar, consisting of an extensive series of auriferous veins of wonderful richness and unknown extent. Extensive prospecting has been done there the past season and several mills erected, while many more are on the way destined for that region. The same can be said of these mills as of the others. They are the property of Eastern companies principally, who build their mills before they commence prospecting their mines. The mills already in operation are doing well, and have proved that the ledges are rich and will amply reward a proper working. There can be no reasonable doubt of the future of the South Boise mines. Boise City, the Territorial Capital, is about where longitude 38½ would cross latitude 43½, and nearly at the eastern end of the Boise valley—the garden of the Territory, and inferior to no agricultural valley of the coast. Such grain, hay and vegetables as the climate will produce can be here raised in abundance, and the market is all around them. Boise City is finely located on an extensive plain, and being entirely independent of all mining excitements and influences, bids fair to be a permanent and the most important place in the Territory. It is now the centre where the stages from Idaho, South Boise, Salt Lake, Owyhee and Portland meet and depart. The last but not least important part of the Territory is the Owyhee mines. The towns are Boonville, Ruby City and Silver City—the two latter almost one town, and barely half a mile from one extreme to the other. Before referring to these mines, I will refer to the ways of getting here and the cost of passage and freights. I left Auburn last July for this place, as agent of Wells, Fargo & Co. There was but one way that I could surely reach here: To San Francisco, 195 miles; to Portland (Oregon), 720 miles; to Dalles (up the Columbia), 124 miles; to Wallula Landing, 119 miles; via steamer from Portland, northeast, 250 miles; thence by stage, southeast, to Boise City, 296 miles; thence again by stage to Ruby City, southwest, 70 miles—total, over 1,500 miles (exact 1,524). To get from place of departure not more than 400 miles in a direct route. Fare by this route: To Portland, $15; to Wallula, $20; to Boise, $60; to Ruby City, $18. And for meals from Portland and other expenses on route $15, and a traveler will find when he lands here that he has spent $160. Without missing a single chance to go ahead, I landed here in thirteen days (it was once afterwards made in eleven). This was then, and is yet, the only reliable and available thoroughfare. The Chico route is a feasable route and passengers' trouble but little, further than the stage route from Portland, the distance from Ruby City to Chico by Odometu being 426 miles. There was an effort made to bring passengers via Chico, but for reasons given above it failed. Some freight came that way, but owing to Indian troubles and want of protection, the road was at all times dangerous. Hill Beachy stocked the road from Star City, Humboldt county, here, and undertook to run a line of stages, but twice lost his stock, and finally had to abandon it with a loss of eighty-seven fine horses. As a consequence of all these troubles, all of the travel and nearly all of the freight of Idaho Territory come via Portland—the passage I have described. The freight has to be handled at least five times by this route before it reaches its destination: Loaded at San Francisco; re-shipped at Portland; at Cascades unloaded and taken by cars seven miles around the falls, and again by steamer to Dalles; unloaded and again taken by cars around the falls fifteen miles; thence by steamer to the Umatilla or Wallula landing, where it finally takes wagon for its destination. I have taken pains to gather some figures of the cost of some mills brought into this region last year. A great noise was made about the cheapness of freight by this route, and its advantages over the land routes in time as well as costs. The first mill mentioned was heralded in the Oregon papers as a wonderful feat, and as reaching its destination for almost nothing. This was the cheapest freight of the season. Before winter closed up the business of the season, twenty-five cents was paid for slow freights from Umatilla to this place, and more goods were brought here above fifteen cents than below that price. I have easily obtained memoranda from mill men, but cannot from the merchants. New York and Owyhee Gold and Silver Mining Company's mill left San Francisco July 9, 1865, weighing 148,437 pounds.

	No. Days.	Cost.
San Francisco to Portland	4	$779 63
Re-ship at Portland	3	.....
To Umatilla	6	2 672 63
Delay at Umatilla	10	.....
Umatilla to Ruby City (average)	32	11 503 86
Total	55	$14,956 11

Cost—Fraction over ten cents.

Lincoln Gold and Silver Mining Company shipped from San Francisco, in August, 220,000 pounds:

	No. Days.	Cost.
From San Francisco to Portland	4	$1 915 75
Lost time and cost in Portland	3	122 50
To Umatilla and lost time	21	3 601 09
Cost at Umatilla	..	144 50
Cost and time from Umatilla to Silver City	35	21 502 06
Total	63	$27,285 85

Cost—Fraction over twelve and one-third cents.

New York and Oro Fino mill, shipped in August and weighed 101,535 pounds:

	No. Days.
Cost and time to Portland	4
Cost and time to Umatilla	13
From Umatilla to Silver City paid not less than ten cents per pound; cost not less than the Lincoln mill—say thirteen pound—from San Francisco to Silver	43
To re-ship at Peta	5
Total	65

Cosmos mill, about the same weight as the New York and Oro Fino: time from Umatilla, sixty days; was shipped in October; freight, 15 cents; making over 18 cents from San Francisco. Making the four mills brought in here on the best terms of any freight of the season average over thirteen cents. One merchant tells me that they have shipped in the past season 180,000 pounds of freight, paying over $29,000 therefor, and that none of it was received in less than forty-five days from Umatilla Landing, on the Columbia, and some of it, shipped 1st of November from San Francisco, has not arrived yet. Another says that his purchases made in Portland figure up over 70,000 pounds, and that it all cost him an average of nineteen cents per pound. Some freight was brought across the country via Chico and Humboldt. I cannot now gather the facts. The safe in my (Wells, Fargo & Co.'s) office came via Chico, going to Humboldt and waiting thirteen days for an escort of troops, and arriving here in six weeks—cost, twelve cents per pound, the train which brought it and the *Avalanche* printing press being loaded with goods for Idaho City, 105 miles north of here. The merchant to whom they belonged has since informed me that they arrived in better order than any ever before received. One Californian brought in here by that route (Chico) during the season 153,000 pounds of flour. Major Bidwell sent here by the same route 80,000 pounds of flour and grain, all at ten cents per pound; and the freighters were anxious to make other contracts at the same price. The first flour party says that he has standing offers to deliver freight here from the wharf at San Francisco at ten cents per pound. One mill was brought through early in the season at twelve cents per pound, the citizens of Chico making the freighters a purse of $5,000 to enable them to make a road, this train being the first loaded teams ever over the route, and they made the road as they advanced wherever it was found necessary. Sufficient travel and freight passed over that route last year to prove that it is not only a practicable but really short and good route, and destined to be an important thoroughfare when protected from Indian depredations. But the best, most practicable and easiest made route is one yet to be opened, leaving the line of the Central Pacific Railroad at the eastern foot of the mountains, somewhere at or near Huffaker's, keeping along just below the foot-hills and just above the desert to the west of Pyramid Lake and to the east of Honey Lake, striking Smoke creek near the point where the present Susanville and Humboldt road crosses that stream; thence bearing northeast along the rim of the desert, striking Queen's river above the Sink, and thence following up the valley of that river (which is arable and rich bottom land, producing immense quantities of wild hay) to Camp McDermit, at that point intersecting the old Star City and Owyhee road—the new road to be explored and defined, being from the line of the railroad to Camp McDermit, and the only part of it not known being from Smoke creek to Queen's river, above the Sink. Hill Beachy is confident a good route can be found from Camp McDermit to the line of road, inside of one hundred and fifty miles—that will make, from Railroad to Camp McDermit, 150 miles; Camp McDermit to crossing of Owyhee river, 80 miles; Owyhee Ferry to Ruby and Silver Cities, 60 miles. Total, 390 miles. (There is a cut-off from here to Camp McDermit, which will be made this summer, saving some 50 or 60 miles.)

This would always be the great thoroughfare and central route for all of Idaho—to California and Nevada—trade and travel. As the railroad progresses east, shorter routes may and will be found to some of its future stations; but the country is more broken, and the expense would be large, while on the route indicated there is little to do but drive across level and table lands, the country being open and rolling sage-brush plains. I have referred to freights and to routes, and a slight sketch of the country. You will naturally ask, what inducement is there to reach Owyhee or Idaho generally? In the fall of 1863, rich creek diggings were found on Jordan creek, a tributary of the Owyhee, and in the beginning of 1864 a systematic exploration was made, revealing an extensive system of gold and silver-bearing veins. Over three hundred lodes were discovered, and new discoveries have been made almost weekly since. The number of claims at this time is not known, and would not be believed abroad if enumerated. The peculiar facilities given by the laws of this Territory to locators of mines has resulted very much to the present injury of the mining interest. One hundred dollars worth of labor on a claim gives the locator a fee-simple title against all except the Government of the United States, and there is no limit to the number of claims one can hold. This tendency has been to make locators of leads continual prospectors—not miners—hindering the development of leads into mines, and accumulating in the hands of energetic prospectors thousands of undeveloped feet, held at fabulous prices, while the owners cannot realize a dollar, and with the utmost difficulty procure the absolute necessaries of life. In the fall of 1864 three mills were commenced here, and began crushing; two of them have been almost continuously employed; the other one has been employed but a small portion of the time. These pioneer mills were Mineor mill, 5 stamps; Morning Star mill, 8; Oregon Steam Navigation Co.'s mill, 10. This past summer have been built Voss mill (light prospect), 4 stamps; Jackson mill, 5; Shonebar mill, 10; New York and Owyhee Gold and Silver Mining Co.'s mill, 20; Lincoln Gold and Silver Mining Co.'s mill, 20; Cosmos Gold and Silver Mining Co.'s mill, 10; total, 102 stamps, now ready to run—each intended for five more stamps, but only the number mentioned set up; two, intended for ten more stamps each, making, when completed, a total of 132 stamps. There will be several other mills here this season; I can name but two certain. The proprietors of the Morning Star mill will build in Flint District, 112 miles distant, one of thirty stamps; the Cosmos Company one here of thirty stamps. The mill already completed will require at least 200 tons of rock per day. The supplies for all the community which this amount of work will gather here comes principally from California, and would, of course, come by the cheapest and best route." . . . For results of some of the mills above mentioned, see JOURNAL OF MINING of May 12th, page 99.

Utah.

The Salt Lake *Vedette* of April 12th has the following mention of the newly discovered Deep Creek mines: These mines were first made known through the discoveries of Kinsley and Kelly, discharged soldiers from the Second Cavalry, California Volunteers, in September, 1864. At this time the district, known as the "Kinsley District," was organized, but no work of any consequence was done until the following year, when some men commenced work upon a copper mine, which has proved exceedingly rich. There are numerous mines of this class in the district, which, in the future, will be very valuable—the ore being worth $380 per ton in San Francisco. But the silver lodes are, of course, regarded as the most important at the present time, and, judging from specimens in our possession, they are second to none in richness in the Territory. The result of fifteen assays made by Hartzline, of Eagan Canyon, from the croppings of the "Emmet" ledge, gave all the way from $50 to $250 in silver and $9 to $23 in gold per ton. Kinsley and O'Dongherty & Co., are running a tunnel into this ledge, working night and day. Fifty ledges have been located and prospected to a limited extent, shafts having been sunk upon them from five to forty-five feet in depth; the most of the latter work, however, has been done in order to secure the claims, in conformity with the laws of the district. Fifteen miners have worked here through the winter. Among the principal ledges are the Emmet, three feet; and Wisconsin, two feet. The ledges vary from three to five feet in width at the surface, and, as far as they have been developed, increase in width downward. Deep Creek is about one hundred and eighty-five miles west from Salt Lake City, on the Overland Mail Line, and the principal mines are about thirty-three miles from Deep Creek station, on what is known as the Old Emigrant road. Wood is plentiful at the mines, but water, sufficient for mill purposes, is from five to eight miles distant.

Arizona.

Recent La Paz correspondence has the following mining intelligence: At Williams' Fork, the different mining companies are very busy in taking out ores. The Mineral Hill Company has some 6,000 sacks ready for shipment on the banks of the river. Mr. Thompson, Superintendent of the Great Central, is preparing the way for the company's smelting furnaces, to be put up twelve miles up Williams' Fork. From Fort Mohave we hear of some stir in mining matters, and of extensive works by Mr. Hardy and others on the Parsons and Michigan lodes. The latter is the lode which shows the most silver of any in San Francisco District, where generally the gold predominates. On the Moss lode they have struck excellent rock in their shafts. A few companies are opening copper veins in the Iratava District, and various parties were preparing to go into the argentiferous region lead ore district known as the "Sacramento." The veins seem to be large and well defined, but the trouble with the Hualpais Indians may again retard their development. Jack Snelling and the gold hunters will leave for the White Mountains next month. . . . Correspondence of the S. F. *Bulletin*, dated Prescott, April 14, states: Mining is progressing surely and systematically, and the lodes now being worked upon are all very paomising. Operations are somewhat retarded on account of a scarcity of provisions, but that will not long be so, and I can safely say the coming summer will be remembered as the first in which our people "put their money, their labor and their confidence in their feet." There is scarcely a doubt in my mind that their efforts will be crowned with success.

Colorado.

The Black Hawk *Journal* May 12th, says that notwithstanding the heavy snow, and the consequent dullness in general business, the Mining companies seem to be in no way prevented from making their regular returns of the "needful," as the following will show, being the result of the last week's run in five of the principal mills: Priggs Company, 121 oz.; Black Hawk, 171; Narragansett, 130; John Sensenderfer, 140; Gunnell, 115½—in all 677½ ounces, which will leave for the East this week. . . . The Denver *News*, May 16th, says: The snow is all gone from the Eastern and Southern slopes of the mountains, and with the present heat we may reasonably expect that all obstacles will soon vanish from the way of the prospector. Present indications are, that not so much prospecting for new lodes will be done this season as in the past, as many of the companies propose to put in labor and capital in the development of lodes already claimed. This is as it should be, for the country needs more mining and less skimming over the surface. The portion of the new mining law requiring a shaft of ten feet, to be sunk upon each newly discovered lode, in order to make good a claim, will be ignored in many of the districts, as the miners propose to be governed by the district laws, and there is nothing in the new law requiring recorders to record such work upon their books. Claims will be recorded as required by the new law with this exception.

Michigan.

The following is the product of the Portage Lake mines for the past quarter of the present year:

	January.		February.		March.		Total.	
	Tons	Lbs.	Tons	Lbs.	Tons	Lbs.	Tons	Lbs.
Quincy	42	1620	77	1510	130	190	250	1320
Franklin	50	1050	65	235	80	570	195	1855
Pewabic	45	275	55	186	70	257	170	718
Huron	39	1440	39	1680	39	1773	119	893
Isle Royale	32	1782	28	1421	25	1108	87	311
Grand Portage	25	1506	23	515	36	1401	85	1422
Hancock	20	1485	26	3	35	005	81	1493
Albany & Boston	23	728	24	975	18	1000	66	703
Shelden Columbian	10	903	..	...	13	1644	24	547
Calumet (Ingot)	....	...	5	1190	13	1631	19	821
	291	789	345	1715	463	1579	1101	10083

On April 18, the trammers at the Pewabic mine struck for an increase of wages from $38 per month to $45. They eventually concluded to continue on as before. . . . The Lake Superior (Marquetta) *Mining Journal*, of May 4th, states: Immense piles of pig iron are now being put upon our docks ready for shipment to Chicago and Cleveland as soon as boats arrive to take it. . . . The same paper of May 18th says: The boats from above brought down this week, a great many Cornish miners, who are leaving the country on account of the dullness in the copper region. They are nearly all on their way to the Pacific States and Territories.

Montana.

Reports at Helena from Walla-Walla to March 19th, gave the depth of snow on the Bitter Root range at seven to ten feet. Mining in the vicinity of Helena will commence about the first of April. (?) . . . There is a great excitement in regard to the Elk Creek country, Deer Lodge County, one hundred miles west from Helena. The creek is reported to be fourteen miles long, and rich the whole distance. The Helena *Radiator* says there are not less than three thousand people there, and that "the roads are lined with the in-going multitute. Quite a city has already sprung into existence." . . . The Montana *Post* says: "The stampede to the big diggings struck at Flint Creek is very large, and the idea is that a very large and rich placer is discovered. . . . The Indian Creek diggins, thirty-five miles from Helena, are another point of attraction. A Mr. Taylor exhibited a purse of gold of his own diggings there—and said he had obtained as high as $1.25 to the pan of dirt. An active rivalry exists between Fort Benton and the mouth of the Mussel Shell river as a steamboat landing—and the future entrepot for goods up the Missouri."

British Columbia.

The latest news from Big Bend mines is to the 1st inst. New diggings have been struck on Clemens creek, and nine dollars to the pan taken out. The snow is too soft on the mountains yet for packing with animals, and Indians are hard to get to pack freight at sixty cents per pound. There is a great reduction in the price of provisions at the lake, in consequence of the large amounts arriving, which it is impossible to get packed into the mines. Flour, at Seymour, is sixteen cents a pound, and in the mines forty cents. Building is going on briskly at Seymour. Fourteen boats arrived at Gold creek, up the Columbia river, in one day, loaded with men and provisions. Hundreds of boats are reported on the way up the river with miners and provisions. The steamer Forty-niner had arrived at the head of Arrow Lake on the 15th ult. with two hundred and fifty miners; the passengers were landed, and the boat returned for more miners. Slate claim, on Clemens creek, is said to be worth ten thousand dollars. Hudson Bay Company's steamer Marten was expected to be launched on the 10th inst. It is rumored that the United States soldiers at Fort Colville had deserted and gone to the mines, taking their arms with them. Since the above, forty more boats arrived at the mines. Two new gold-bearing creeks, tributaries of French creek, have been discovered. The greatest confidence in these mines is now felt here.

Oil Summary.

California.

We are indebted, says the S. F. *Alta* of April 16, to M. S. Whiting, in 1863 State Senator from this city, for some information about oil boring at Oil Centre, Colusa county, twenty-three miles in the foothills of the Coast Range, about two hundred feet above the level of the Sacramento river, at the town of Colusa, which is twenty-three miles distant eastward. He is engaged, with several gentlemen of this city, in boring a well, which is now down 470 feet, and which has cost, so far, $20,000. The greater part of the distance, the augur has passed through sandstone and shale. At a depth of fifty-eight feet, a vein of heavy lubricating oil was struck; at one hundred and twelve feet another vein; 217 another, and at 361 feet some shale, with the new color known as Humboldt blue. At 196 feet, and at 380 feet again, specimens of petrified oak wood were found. The boring is still in progress. The well is filled with a strong salt water, the supply of which is not known, no attempt being made to pump the well for fear of injuring it. Through this salt water there are frequent escapes of gas, which throw the water out of the well. For a period of thirty days, where the augur was passing from a depth of 175 to one of 260 feet, the water rose 3 feet at 3 P. M., and again at 6 P. M., and soon after fell to the ordinary level. There is no known explanation for this tidal movement. After the augur passed a depth of 260 feet, no tide was observed. In Antelope Valley, eighteen miles north of Oil Centre, there is a salt pond, and in the vicinity is Salt creek, which is saturated with salt about June, and becomes entirely dry in August, and during the rainy season has a barely perceptible saline flavor. The less the water, the greater the proportion of salt. In Bear Valley, six miles west of Oil Centre, a large deposit of sulphur has been found, and it is said that some has been sold to merchants in San Francisco.

Pennsylvania.

The Titusville *Herald* says that the Lady Brooks well, on Pioneer Run, stopped flowing on Saturday, in consequence of the bursting of the seed-bag. It was yielding six hundred barrels per day, and at the time of the stoppage was the largest producing well in the oil region. . . . Latest news from wells in Dennis Run region is as follows: Oil was struck at the Haines well on Friday, the 18th. Yield, nearly 200 barrels per day. Several wells are about to be tested on Dingley Run, and on the Clelland property, Dennis Run. Maguire promises to be heard from soon. Oil has been struck on Magee Run; well owned by a Mr. Brown, of Pittsburgh. Said to be lubricating oil; yield not definitely ascertained. We hear of several new wells going down on Tidioute creek and Maguire Run. Adaah Neyhart and Joshua Pierce last week sold to the West Hickory Eagle Oil Company, of Mahoming county, as follows: Ten acres of Neyhart Farm, on the west branch of West Hickory, $5,000; Ten acres of Pierce tract on the middle branch of West Hickory, $5,000; interests on Dennis Run, $5,000; total, $15,000. This makes the third company organized on the above property this season, the others being Salem Oil and Lumber Company, capital stock, $40,000; Damascoville Oil Company, capital stock, $20,000.

Ohio.

On the 5th inst., a one hundred barrel oil well was struck on the Allen Farm, Buck Run, five miles from McConnellsville, at a depth of 127 feet. The well is owned by J. R. Conway. . . . Another strike has been made in Blue creek township, on the farm of E. Saver. . . . The Grey Eagle well, on the Peyton Farm, near Zanesville, has pumped at the rate of one hundred barrels in ten hours. Thirty-eight gallons of fine lubricating oil were pumped by hand in five minutes lately. . . . A Cow Run correspondent says there are only three cows there, and a great many associations—thirty-eight derricks, and nine more going up; twenty engines—seven pumping and five boring; average yield of oil per day, twenty or twenty five barrels; about sixty hands employed at from two to three dollars per day; board six dollars per week; ten boarding-houses; oil worth seven dollars per barrel at the river; gravity from forty to forty-four; the roughest country in the world.

Tennessee.

Reports from the Spring Creek, Overton county oil regions, state as follows: The Newman well, belonging to the Overton Co. Petroleum and Mining Company, has four tanks of the capacity of over 100 barrels each, which are pumped full in one hour—oil and water. Twenty additional tanks, holding each 175 barrels, are now being constructed at the well. The yield is expected to be no less than 250 barrels per day. Six teams are kept constantly hauling the oil to the river with one hour's pumping each day. The oil procured is the lubricating quality, free from impurities, and is used exclusively on the machinery at the well. The company has commenced putting down another well upon the Douglas Lease, contiguous to the Newman well. The Jackson Mining and Petroleum Company, who have a well situated (upon Spring creek, higher up) near the Newman well, have suspended boring, and are awaiting a pump and tubing to test their wells.

West Virginia.

Burning Springs correspondence of the *Oil News*, dated May 20, states that on the 17th Jones' well struck oil, which flows in immense quantities. Wells near are getting more oil. Great excitement prevails over this strike; depth of the well 850 feet. Another strike, nearly at the same depth, occurred at Barne's well, on the 16th; it is now flowing.

Peroxide of Hydrogen.

Professor Schonbein has discovered a new and very ready method of procuring the peroxide of hydrogen. In consists simply in agitating, in a large flask, to which air has access, amalgamated zinc in powder, with distilled water. Oxygen is then absorbed by both the zinc and the water, with formation of oxide of zinc and peroxide of hydrogen. The peroxide of hydrogen obtained by this method, unlike that obtained by the ordinary process, is quite free from acid, and so may be kept for a long time without decomposition. It does not contain, moreover, a trace of either zinc or mercury, but is absolutely pure. This new process has, therefore, great advantages over the old process of preparing peroxide of hydrogen, both as being far simpler and more expeditious, and as yielding a much purer product; but it is almost as far as the oid process from yielding peroxide of hydrogen cheaply enough for use in the arts.—*Mechanic's Magazine.*

GOLD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Acadia			Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Albion		$ 300,000	Halifax, Nova Scotia	H. W. Nelson, 24 City Ex., Boston
Alps	100,000	250,000	Illinois Central Dist., Col.	J. Stanton, Jr., 25 Nassau, N. Y.
Ascot	50,000	5,000,000	Sherbrooke, Canada E.	G. H. Morrison, 17 Nassau, N. Y.
Atlantic				Chas. Barrett, 13 Doane, Boston.
Atl'tic & Pacific	50,000	5,000,000	Humboldt T., Humboldt co.	J. N. Sewall, 8 Broad, N. Y.
American	100,000	5,000,000	Gregory Dist.	
American Flag	60,000	600,000	Nevada Dist., Col.	H. Foles, 12 Pine, N. Y.
Astor	200,000	1,000,000	On Comstock Lode	J. Chapman, 71 Broadway, N. Y.
Baltic			Colorado,	New York.
Bates & Baxter			Colorado	New York.
Bay State	200,000		Colorado,	Lem'l Bangs, Boston.
Benton	100,000	500,000	Colorado,	F. W. Capen, 44 Ex. Pl., N. Y.
Black Hawk	50,000	5,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Beacon		500,000	Halifax co., Nova Scotia	J. B. Post, 20 Ex. Pl., N. Y.
Bobtail	100,000	1,000,000		J. Stanton, Jr., 25 Nassau, N. Y.
Briggs	10,000	1,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Bradshaw	250,000	1,000,000	Yavapai County, Arizona	O. H. Conover, 219 Pock st., Phil.
Barroughs	100,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Bullion	200,000	1,000,000	Bannock, Montana	55 Liberty, N. Y.
Bullion Consoli.	300,000	200,000	Summit and Clear Creek, Col.	J. P. Whitney, 19 Lindall, Boston
Calvin	200,000	1,000,000	Clear Creek co., Col.	J. P. Whitney, 19 Lindall, Boston
Canadian				A. Cull, 7 Phœnix B'l'g, Boston.
Chem. Gold&S. R				64 B'way
Ch. Un. Gold Co.				66 B'way
Chebucto	100,000	500,000	12 miles from Halifax	J. F. M. Gilley, Boston.
Clarendon		500,000	5 miles from Halifax	H. Doane, 41 State, Boston.
Chase	5,000	500,000	Colorado	W. F. Lawton, 81 John, N. Y.
Central Gold M.	20,000	1,000,000	Central City, Col.	L. Bangs, 22 Pine, N. Y.
Central Mining	200,000	1,000,000	Colorado	46 Exchange Pl., N. Y.
Chandiere	100,000	500,000	5,000 A Famine Riv. C. E.	Wm. B. Fowle, Boston.
Cobden	100,000	1,000,000	Idaho	New York.
Colonial				W. N. Ely, 7 Trav'r B'l'g, Boston
Colorado Boston			Colorado	R. C. M'Laughlin, 60 State, Bos'n.
Colorado N. Y.			Colorado	12 Pine, N. Y.
Coleman			Colorado	New York
Columbia	50,000	3,000,000	Austin City, Nevada	10 Pine, N. Y.
Consuelo Gold				31 Pine,
Consol Gregory	50,000	5,000,000	Gregory Dist., Col.	30 Pine, N. Y.
Cook & Kimball	1,000	150,000	Colorado	W. W. Baldwin, 35 Wm., N. Y.
Copalmshee	250,000	5,000,000	Parke co., Col.	J. C. Storker, 137 B'way, N. Y.
Corrisannee	100,000	1,000,000	Colorado	New York.
Commonwealth			Nevada	Philadelphia.
Corrydonn	100,000	2,500,000	Gilpin co., Col.	46 Exchange Pl., N. Y.
Continental	20,000	2,000,000	Gregory Dist., Col	115 Liberty, N. Y.
Central Gold	200,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Dauphin & Colo.	200,000	1,000,000	Colorado	John S. McMullin, 123 Walnut, Pa.
Day & Business	300,000	3,000,000	Colorado	T. Chalmers, Jr., 20 Ex. Pl., N. Y.
De Lery		10,000,000	Chandiere Valley, Canada E.	J. M. Winchell, 72 Cedar, N. Y.
Denver	50,000	1,000,000	Gilpin & Clear Creek, Col.	J. Wadsworth, 61 Cedar, N. Y.
Devonshire				W. Stockbridge, 74 Fr'klin, Bos'n.
Downieville	300,000	300,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Dorset			Chandiere River, C. E.	F. McJunsey, 59 Wm., N. Y.
Eagle	100,000	1,000,000	Gold Dirt Dist., Col.	J. P. Davies, 81 John, N. Y.
East Bannack	100,000	200,000	Bannack City, Montana	J. Calnder, 48 Ex. Pl., N. Y.
Eldorado	300,000	2,500,000	San A Dist., 9 miles of Austin	208 S. Fourth, Phila.
Empire	250,000	5,000,000	Clear Creek, Col	H. K. Gates, 191 B'way, N. Y.
Empire Mill & M				O. F. Griffin, San Francisco.
Enriquetta			Arizona	New York.
Esperanza		500,000	Star D., Humboldt co.	117 Broadway, N. Y.
Etna	50,000	500,000	Nevada Dist., Col.	C. W. Bryant, Boston.
Excelsior	30,000	300,000	Central City, Col.	J. Weatherbee, Jr., 11 P. B'g, Bos.
Famine Falls	100,000	4,000,000		D. L. Dodge, 30 B'way, N. Y.
Garrisons	100,000	5,000,000	Colorado	C. G. Mease, 29 William, N. Y.
Gem	25,000	1,200,000		H. K. Gates, 191 B'way, N. Y.
Georgetown			Colorado	New York.
Gilbert River				C. E. Jackson, 18 Phe'x B'g, Bos'n.
Gilpin				C. W. Galloupe, 76 State, Boston.
Golconda	250,000	5,000,000	Sherbrooke, Canada E	W. H. Adams, 119 Broadway.
Gold Field				C. B. Cowling, 39 Kilby, Boston.
Gold Rock	5,000	500,000	Central City, Colorado	R. M. Lockwood, 113 Wall, N. Y.
Gold River				W. H. Cheesman, 9 Central, Bos'n.
Gold Hill	50,000	500,000	Colorado	W. T. Eustis, Boston.
Gold Mountain	600,000	6,000,000	Clear Creek Co., Colorado	25 Nassau, N. Y.
Gold Min'g of Col	50,000	5,000,000	Colorado	E. Latham, 23 William, N. Y.
Golden Gate	60,000	600,000	Sum., High'd&Mill C. D., Mon.	J. Morse, Jr., New York.
Gunnel Central			Colorado,	70 Broadway, N. Y.
Gunnel Gold	300,000	3,000,000	Colorado,	F. E. Rocfison, 78 & 80 B'way, N. Y.
Gregory	20,000	1,000,000	Colorado,	Thos. Wildes, 17 William, N. Y.
Granada	50,000	125,000	Colorado,	J. Stanton, Jr., 25 Nassau, N. Y.
Great Western	60,000	600,000	Russel Dist., Col.	E. Kemeys, 70 Broadway, N. Y.
Gunnel Gold	100,000	1,000,000	Colorado,	F. E. Rocfolson, 74 B'way, N. Y.
Halifax				A. Case, 7 Phœnix B'l'g, Boston.
Harmony				Demas Barnes, 21 Park Row.
Her'it'ge Ranch	30,000	300,000	El Dorado, Cal.	
Hope	80,000	2,000,000	G'ld Dirt Lode, Gilp. co., Col.	J. P. Davies, 81 John, N. Y.
Holman	150,000	300,000	Clear Creek co., Col.	J. O'Neill, 25 Wm., N. Y.
Humboldt	100,000	500,000	Colorado,	78 B'way.
Idaho	100,000		Montana	5 Pine, N. Y.
Invincible				
Isaac's Harbor	100,000	500,000	Isaac's Harbor, Nova Scotia	W. F. Shirley, 137 B'way, N. Y.
Isle Royale				44 Ex. Pl.
Kansas Colorado	100,000	1,000,000	Colorado,	J. G. Greenlies, 111 B'way, N. Y.
Kent				G. H. Wyman, 19 Phe'x B'l'g, Bos.
Kip & Buell	100,000	200,000	Colorado,	J. C. Harriott, 70 Wall, N. Y.
Knickerbocker	100,000	1,000,000	Colorado,	F. Avery, 74 B'way, N. Y.
La Crosse	100,000	$1,000,000	Nevada Dist., Colorado,	H. Fales, 12 Pine, N. Y.
Liebig	200,000	1,000,000	Colorado	
Lake Major	12,000	$600,000	Nova Scotia	Fred. Franck, 113 Water, N. Y.
Mariposa Gold	100,000	10,000,000	Bear Valley, Cal.	G. W. Farlee, 34 Wall, N. Y.
Mammoth	50,000	500,000	Colorado,	J. Jarrett, 41 Liberty, N. Y.
Manhattan	100,000	1,000,000	Colorado,	W. R. Lothrop, 172 B'way, N. Y
Massachus. Rs.	250,000	1,200,000	Gilpin co., Col.	W. D. Briggs, 11 Phe'x B'l'g, Bos.
Merchants	30,000	600,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N. Y.
Metropolitan				
Mountain Pride	100,000	1,000,000	B'r C'k, St. Bse., Idaho	29 Pine, N. Y.
Montague	50,000	500,000	near Halifax, Nova Scotia	C. B. Cowling, 39 Kilby, Boston.
Mount Alpine			Griffith Dist., Clear C'k., Col.	J. B. Randol, N. Y.
Mount Vernon	500,000	5,000,000	Mt. V. & Mam'th Dist., Nev.	25 Park Row, N. Y.
Mount Vista	50,000	500,000		J. Chapman, 23 Nassau, N. Y.
Montana	100,000	400,000	Nevada, Ills., Greg'y, Col.	A. L. Guerber, 54 Wm, N. Y.
Monte Christo	100,000	2,000,000	White Pine District, Nev.	Thos. Dunlap, 413 Chestnut, Phil.
Montezuma	100,000	500,000	Colorado,	F. B. Webster, Boston.
Montrose	100,000	1,000,000	Clear Creek co., Col.	C. A. W. Sibley, 80 B'way, N. Y.
Morning Star	5,000	5,000,000	Owyhee co., Idaho	E. M. Barnum, 137 B'way, N. Y.
Mexican Pacific	100,000	10,000,000	Mexico,	J. Backie, 88 Wall, N. Y.
Meloures & Stan			Calaveras co	606 Mont, San Francisco.
National	500,000	3,000,000	on So. Boulder C'k, Col.	31 School, Boston.
Nevada Star				25 Pine, N. Y.
New England	50,000	150,000	Black Hawk, Col.	J. Weatherbee, Jr., Boston.
New Mexico			near SantaFe	
New Gregory				W. A. Kent, 144 State, Boston
New York City	50,000	5,000,000	G'd Canon D't, Land. co	Nev. 10 Pine, N. Y.
New York Dist.	50,000	500,000	Austin, N. Y. Dist., Nevada.	71 B'way, N. Y.
New York of Col	100,000	1,000,000	Colorado,	F. E. Rocfolson, 74 B'way, N. Y
N. Y. & Nevada	100,000	1,000,000	Nevada,	J. J. Osborn, 30 Pine, N. Y.
N. Y. G Min'g	100,000	1,000,000	Colorado,	F. E. Rocfolson, 78 & 80 B'way.
N. Y. & Eldor'do			Nevada,	106 B'way, N. Y.
N. Y. & Idaho			Idaho,	180 Chatham, N. Y.
N. Y. & Santa Fe			Nevada,	New York.
N. Y. & Owyhee		1,000,000	Owyhee co., Idaho	4 Pine, N. Y.
N. Y. & Oro Fino	10,000	1,000,000	Owyhee co., Idaho,	157 Broadway, N. Y.
N. Y. & Reese R			Nevada,	New York.
N. Y. & Washoe			Nevada,	New York.
North Clear C'k	100,000	1,000,000	Gilpin co., Col.	J. Francis, 80 B'way, N. Y.
Nova Scotia				Chas. Barrett, 13 Doane, Boston
N. Y., & Nova S	100,000	1,000,000	Tangier, Nova Scotia	Jas. E. Gay, 3 Hanover, N. Y.
National S Min'g		1,500,000	Owyhee co., Idaho	115 B'way, N. Y.
Occidental	5,000	500,000	Nevada & Ills. C. Dist., Col.	100 B'way, N. Y.
Oldham				Chas. Barrett, 13 Doane, Boston.
Oplar	62,500	625,000	on Comstock Lode, Nevada.	Moses A. Hoptock, 47 Ex. Pl.
Pacific	40,000	4,000,000		24 Pine, N. Y.
People's	100,000	5,000,000	Alpine & Sierra cos.	23 Nassau.
Peck				E. R. Sawyer, 144 State, Boston
Perigo	60,000	3,000,000	Ind. Dist., Gilpin co., Col.	J. W. Stratton, 90 B'way, N. Y.
Pine Mountain	50,000	5,000,000	Pine Mountain Dist., Nev.	F. K. McCully, 157 B'way, N. Y.
Pioneer & Inskip			Buena Vista Dist., Nevada.	15 Nassau, N. Y.
Phila. & Color'do	20,000	1,000,000	Central City, Col.	E. W. Clark & Co., Phila.
Phelps & Gilm're	200,000	1,000,000	Colorado	W. H. Steudevant, 23 Nassau.
Pleasant Valley	125,000	1,250,000	Colorado,	J. S. Lyon, 69 Wall, N. Y.
Pontiac	50,000	1,000,000	Ill. Cen. M. Dist., Col.	R. H. Rickard, 19 Nassau.
Prescott	100,000	1,000,000	Central Arizona	69 B'way, N. Y.
Prince Albert				W. H. Cheesman, 9 Central, B'stn.
Quaker City			Indi't D't, G'd D't City, Col.	103 South Third, Phila.
Quartz Hill	40,000	100,000	Nevada Dist., Col.	J. A. Tyler, 29 Wall, N. Y.
Ranche C'k	10,200	1,200,000	Pine Grove Dist., Nevada.	18 Broad, N. Y.
Realito		1,600,000	G'd Hill D., Storey co., Nev.	117 B'way, N. Y.
Reese River Pr'l	100,000	1,000,000	AmadorDist., Lander Co., Nev.	Elijah Alliger, 67 Wall, N. Y.
Renfrew				W. Stockbridge, 74 F'klin, Bos'n.
Republic	15,000	1,500,000	Amador D., Lander co., Nev.	67 Exchange Pl., N. Y.
Rocky Mountain	50,000	500,000	Grey & Empire Dists., Col.	E. L. Bolles, 49 Ex. Pl., N. Y.
Reciprocity	100,000	1,000,000	Canada East	B. B. Grant, Jr., 71 B'way, N. Y
Scorpion			Virginia City, Nevada	617 Clay, San Francisco.
Sherbrooke	100,000	1,000,000	Sherbrooke, Canada East	F. Schumacker, Cliff, N. Y.
Silas Wright	60,000	600,000	Amador D., Lander co., Nev.	18 Wall, N. Y.
Silver State	100,000	500,000	Humb't Starr. Pr. R. D. Humb't co., Nevada.	R. S. Miller, 49 William, N. Y.
Silver Wave	300,000	3,000,000	Resee riv. Lander co., Nev.	Emmet Blair, 243 B'way, N. Y.
Smith & P'mlee	125,000	2,500,000	Colorado,	G. A. Lathrop, 4 Broad, N. Y.
Smithfield	100,000	100,000	Gilpin Co., Col.	A. F. Bamm, 8 Broad st., N. Y.
Spanish		3,000,000	La Plata, Churchill co., Nev.	228 South Third, Phila.
So. Clear C'k			Colorado,	Canastota, N. Y.
Starlight Ledge	50,000	500,000	P'ville, El Dorado co.	
Star of Color	200,000	2,000,000	Colorado,	J. N. Powers, 29 Pine, N. Y.
Standard	50,000	500,000	Gregory Dist., Col	T. A. Mitchell, 12 Wall, N. Y.
Steptoe	20,000	2,000,000	G'd Can., Lander co., Nev.	157 B'way, N. Y.
Sterling City		1,200,000	Colorado,	New York.
Stewart	100,000	500,000	Colorado,	C. Durham, 31 Exchange, Boston
Suffolk				Carlos Cobb, 22 William, N. Y.
Southard				Wm. Wallace, 11 Doane, Boston.
Stafford				C. E. Jackson, 15 Central, Boston
Tascher	100,000	1,000,000	Colorado,	F. J. Wright, 8 Wall, N. Y.
Texas	50,000	500,000	Black Hawk City, Colorado.	Wm. E. Parish, 155 B'way, N. Y.
Trimto			San Antonio, L. Cal.	San Francisco.
Union	240,000	12,000,000	Colorado	F. A. Potts, 110 B'way.
United States	75,000	1,500,000	Colorado,	J. F. Stevens, N. Y.
University				31 Nassau, N. Y.
Victoria				W. H. Cheesman, Central, B'stn.
Virginia City	250,000	250,000	Nevada,	J. B. William, 78 & 80 B'way.
Wauba Yuma	600,000	6,000,000	Arizona,	35 William, N. Y.
Waddingham	24,000	600,000	Alturas co., Idaho,	Jas. K. Selleck, 104 Wall, N. Y
Waverley				J. Leighton, 97 State, Boston
Windsor Gold M	10,000	100,000	Colorado,	25 William, N. Y
Wilson & Cass			Colorado,	New York

LEAD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Amenia	100,000	$ 500,000	Duchess co., N. Y.	G. Furman, 77 Cedar, N. Y.
Bucks County	40,000	200,000	Bucks co., Pa.	R. R. Sinclair, 53 Ex. Pl., N. Y.
Canada	50,000	250,000	Canada	Alb. Case, 7 Phe'x B'l'g, Boston.
Champion				New York.
Clute	110,000	550,000	Macomb T. St. Law. co., N. Y.	Bev'l'y S. Merrill, 42 Cedar, N.Y.
Continental	200,000	500,000	Martinsburg, N. Y.	J. Sickles, 57 Ex. Pl., N. Y.
Eastport	100,000	1,000,000	Eastport, Me.	R. Vose, 54 William, N. Y.
Erie	40,000	4,000,000	Orange co., N. Y.	Ogden Gaul, 25 Pine, N. Y.
Hampton	100,000	500,000	Hampshire co., Mass.	C. W. Bryant, Boston.
Jefferson				65 Wall, N. Y.
King's Hill	10,000	50,000		W. L. Haskin, 180 B'way, N. Y.
Lake Superior	200,000	1,000,000	Secs. 5 & 36 T., 49 & 50 R., 28 & 29 Marquette co, Mich.	C. L. Mather, N. Y.
Lancaster	50,000	250,000	Lancaster co., Pa.	J. R. Sibley, 35 Pine, N. Y.
Macomb	110,000	550,000	Macomb T. St. Law. co., N. Y.	C. F. Scofield, 42 Cedar, N. Y.
Maine	50,000	500,000	Eastport, Me.	A. L. Butler, 54 William, N. Y.
Mineral Point	100,000	500,000	St. Lawrence co., N. Y.	H. W. Warren, 60 City Ex., B'stn.
Morgan	100,000	500,000		W. Williams, 42 Cedar, N. Y.
Mount Hope	80,000	200,000	Mt. Hope, Orange co., N. Y.	W. Williams, 24 Pine, N. Y.
New Hampshire	100,000	500,000	New Hampshire	W. A. Farrar, 71 B'way, N. Y.
N. Y. & Boston		1,000,000	Chester co., Pa.	S. M. Cockein, 22 William, N. Y.
Oswegatchie				24 Pine, N. Y.
Owens Lake	50,000	250,000		C. W. Bond, 78 Cedar, N. Y.
Phœnix	50,000	250,000	Columbia Co., N. Y.	G. W. Butler, 54 William, N. Y.
Placentia Bay	200,000	1,000,000	Newfoundland	J. Simpkins, 29 Wall, N. Y.
Ramsay	20,000	500,000	Township Ramsay, C. W.	C. W. Bryant, Boston.
Rochester	200,000	500,000		J. A. Ferguson, 8 Wall, N. Y.
Rossie				24 Pine, N. Y.
Rosa Clara	100,000	1,000,000		H. Lathrop, 25 Nassau, N. Y.
St. Clair	100,000	1,000,000		H. B. Hawkins, 25 Nassau, N. Y.
St. Joseph	100,000	1,000,000		W. Williams, 25 Nassau, N. Y.
Shawangunk	100,000	500,000	Mt. Hope, Orange co., N. Y.	E. P. Ackerman, 48 Pine, N. Y.
Sussex	125,000	625,000	Sparta Town, Sus'x co., N. J.	F. H. Stow, 53 Cedar, N. Y.
Walkill			Orange co., N. Y.	W. A. Scott, 170 B'way, N. Y.
Warren			Warren, Grafton co., N. H.	J. S. Christie, 100 B'way, N. Y
White Mountain			New Hampshire	111 B'way, N. Y.

SILVER.

COMPANY.	SHARES.	STOCKS.	LOCATION OF PROPERTY.	SEC'Y AND PLACE OF BUSINESS.
Amazon	25,000	$250,000	Nevada	W. L. Louther, 134 So. 3d, Phil.
Argentine	50,000	250,000	Argentine Dist., Colorado	D. L. Dennison, 134 State, Boston
Arizona	100,000	10,000,000	22 m W of Tuskie, Arizona	J. B. Randol, 32 Pine st., N. Y
Astor	200,000	1,000,000	On Comstock Lode, Nev	J. Chapman, 71 Broadway, N. Y.
Atlantic & Pac.	50,000	1,000,000	Humboldt T. Hum't Co, Nev.	J. N. Sewall, 8 Broad st., N. Y.
Big Smoky	20,000	600,000	Smk'y Hill. Lander Co. Nev.	
Black Eagle	7,000	350,000	Carson, Owyhee co., Idaho	O. D. Gardner, 40 Maiden lane.
Bullion	200,000	1,000,000	Bannock, Montano	55 Liberty street.
Bush	50,000	500,000	Austin City, Nevada	176 Chambers st., N. Y.
Combination	50,000	50,000	Nevada	J. W. Stoute, Jr., 155 B'way, N.Y
Colorado Con			Cedar Hill Nevada	New York.
Columbia	50,000	3,000,000	Austin City, Nevada	J. E. Smith, 10 Pine street, N. Y.
Conn. & Nevada	120,000	1,250,000	Averill, Churchill Co. Nev	47 Liberty street, N. Y.
Commonwealth	200,000	2,000,000	Gold Hill, Nevada	80 B'way, N. Y.
Cosmos	10,000		Awyhee Co, Idaho	137 Broadway, N. Y.
Del Norte & S'br			Lower California	New York.
Durango	5,000	500,000		W. R. Garrison, 73 W'm st., N Y.
East Bannock	100,000	200,000	Bannock City, Montano	J. Callender, 49 Ex. P., N. Y.
Empire G. & S	100,000	10,000,000	Badie Bluff, Mono	H. R. Gates, 191 Broad'y, N. Y.
Empire and Silver State	20,000	2,000,000	Reese River Dist., Nevada	57 B'way, New York.
Eldorado	500,000	2,500,000	San A 90 m s of Austin, Nev.	208 South Fourth street, Phila.
Essex & Diadem	125,000	2,500,000	Sierra dis, Humboldt C. Nev.	A. R. Wetmore, 81 Vesey st, N.Y.
Franklin			Nevada	Philadelphia.
Gem	200,000	1,200,000		H. K. Gates, 191 B'way, N. Y.
Globe	100,000	500,000	Austin, Nevada	J. W. Brazier, 26 Pine, N. Y.
Good Hope	20,000	1,000,000	40 m S of Austin, Nevada	80 Broadway, N. Y.
Huron			Montano	New York.
Incas	300,000	300,000	Summit co., Colorado	J. P. Whitney, 19 Lindall, Bost.
Knickerb'r and Nevada	20,000	2,000,000	Union Dis. Nye Co, Nev	H. R. Shotwell, 70 Cedar, N. Y.
Lander County			Nevada	New York.
Lincoln		1,000,000	Owyhee Co, Idaho	80 Broadway, N. Y.
Lw'r California	40,000	2,000,000	North Part of Lower Cal.	55 William street, N. Y.
Madison	50,000	5,000,000	Nevada	W. W. Perkins, 71 B'dway, N. Y.
Macedon			Nevada	Philadelphia.
Manhattan			Nevada	New York.
Merchants	50,000	600,000	Altun ns Co. Idaho	137 Broadway, N. Y.
Metropolitan	15,000	1,500,000	Austin City, Nevada	158 Broadway, N. Y.
Morning Star	5,000	5,000,000	Owyhee County, Idaho	137 Broadway, N. Y.
Mount Vernon	500,000	5,000,000	Mount Vernon & Mammoth District, Nevada	New York.
Mount Vista	50,000	500,000		J. Chapman, 71 Bway, New York.
National	15,000	1,500,000	Owyhee Co. Idaho	115 Broadway, N. Y.
Nevada	100,000	300,000	Mountain Wells, D. Ch. co. Nev	323 Walnut street, Phila.
Nevada	120,000	1,200,000	Nevada	E. L. Bolles, 49 Ex. Place, N. Y.
New Y'k & Ione	20,000	2,000,000	Ione City, Nye Co., Nev.	71 Broadway, N. Y.
New York	1,500	1,500,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
New York City	50,000	5,000,000	Gold Can Dist. Lander Co. N	10 Pine street, New York.
New Y'k Dis'ct	50,000	5,000,000	80 m f'm Austin, N. Y. Dis. Nevada	S. A. Hopkins, 71 Broadway, N Y
New Y'k & Nev.	10,000	1,000,000	Nevada	J. J. Osborn, 30 Pine street, N. Y.
N. Y. & Owyhee		1,000,000	Owyhee Co. Idaho	6 Nassau street, New York.
N. Y. & Oro Fino	10,000	1,000,000	do. do.	137 Broadway, New York.
N. Y. and Silver Peak		20,000	2,000,000 Nye County, Nevada	R.IC. Root, 74 Broadway, N.
N Y. & Santa Fe			Nevada	New York.
N. Y. & Washoe			Nevada	New York.
North Am. M'g			Nevada	Philadelphia.
Ocean Transit		1,500,000	Lower California, Mexico	24 Pine, N. Y.
Ophir			On Comstock Lode, Nev	
People's	100,000	500,000	Alpine & Sierra Counties	8 Pine street, New York.
Phœnix	200,000	2,000,000		48 East 20th street, New York.
Picacho	50,000	2,000,000	Arizona	T. H. Perkins, New York.
Pine Mount'n	50,000	3,000,000	Pine Mount'n Dist. Nev	F. K. McCulley, 100 Bd'way, N. Y.
Pioneer & Juskip			Buena Vista Dis., Austin, Nev	15 Nassau street, New York.
Prescott		50,000	2,500,000 Arizona	T. H. Perkins, New York.
Presidential		125,000	2,500,000 Austin, Nevada	Wm. Lemmon, 17 Broad, N. Y.
Republic		15,000	1,500,000 Amador, D Lander Co. Nev	67 Ex. Place, New York.
Revenue Exten		50,000	500,000 Lander County, Nevada	W. L. Kite, 142 South 4th, Phila.
Rosario and Carmen		5,244	1,480,000 Sinaloa, Mexico	San Francisco.
Rough Diamond				
San Antonio		60,000	3,000,000 Arizona	C. Lamson, 21 Nassau st., N. Y.
Seminole		7,000	1,500,000 Unionv., Humboldt Co. Nev.	L. G. Wilkin, 171 B'way, N. Y.
Silas Wright		60,000	600,000 Amador, D Lander Co. Nev.	18 Wall street, New York.
Silver Hill		40,000	1,000,000 Nevada	J. C. Hitchcock, 62 B'dway, N.Y.
Silver Series			1,000,000 Lander Co., Nevada	W. B. Rogers, 119 B'way, N. Y.
South Boise, T. Co		200,000	2,000,000 Alturas Co., Idaho	
Star Hill		20,000	1,000,000 Nevada	
S'th Cl'r Crk			Colorado	Canastota, New York.
Stephenson		500,000	1,000,000 18 m E of Ft. Fillmore	A. S. Kellogg, 22 Pine, New York,
Steptoe		20,000	2,000,000 Gold Can. Lander Co. Nev.	10 Pine, New York.
Sterling City			1,200,000	New York.
Tarshish		12,000	1,200,000 Toryabee Range, Un. D., Nev	H. S. M'Collum, 109 B'way, N. Y
Tempest		200,000	1,000,000	L. Bangs, 22 Pine street, N. Y.
Trumbo			San Antonio, Lo'wr Cal.	San Francisco.
Toiyabee		50,000	5,000,000 Pine W'd, Mn'tn Dis. Nev	J. M. Brown, 157 B'wy, N. Y.
Union & El D'o		100,000	1,000,000 Mogul Silver Mn'tn	
Upper Missouri			100,000 Montana	107 Broadway.
Vedder		21,000	2,100,000 Amador Dist., Nevada	L. G. Bingham, 80 B'way, N. Y.
Wamba Yuma		600,000	6,000,000 Arizona	35 William street, New York.
Washington		22,500	2,250,000 Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
White Mountain			New Hampshire	111 Broadway, New York.

COPPER.

COMPANY.	SHARES.	CAPITAL.	SITUATION OF PROPERTY.	SEC'Y., AND PLACE OF BUSINESS.
Adventure,	20,000		Parts of Sections 35, 36, T. 51, N Range 38 W.	W. H. Smith, 51 Ex. Pl, N. Y.
Etna,	20,000		1226 A in Secs. 6, 7, 18, T. 58, N R 28, W Keweenaw co, Mich.	B. A. Hoopes, 324 Walnut St., Phil.
Alb'ny & Bost'n.	20,000		Secs 7, 8, 9, 10, 11, T. 55, R. 33	Fred. Beck, 43 City Ex., Boston.
Anita,	20,000		Del Norte co., California,	8 Wall St., N. Y.
Algomah,	20,000		W½ S. 30, T. 51, R. 37,	L. W. Clark, Boston.
Allouez,	20,000		Town 57, R. 32, Sec. 31,	Horatio Bigelow, Boston.
Amy gal'y'd L.,	20,000		E½ Secs. 16, 21, T. 58, R. 30, NW¼ Sec. 5, T. 57, R. 31,	F. H. Womrath, 324 Walnut St., Philadelphia.
Arcadian,	20,000		NW¼ Sec. 20, T. 57, R. 33, 160 A,	C. P. Dixon, 48 Pine St. N. Y.
Astor,	20,000		NW¼ Sec. 5, T. 57, R. 31 160 A,	A. W. Boardman, 35 Court St., Boston.
Atlas,	20,000		NE¼ of E½ & NW¼ of NW¼ Sec. 31, T. 57, R. 31,	L. W. Clark, Boston.
Aztec,	20,000		W½ Sec. 31, T. 51, N. of R. 37,	L. W. Clark, Boston.
Bay State,	20,000		SW¼ Sec. 29, T. 58, R. 31,	L. W. Clark, Boston.
Beaver,	20,000		NE¼ Sec. 32, T. 58, R. 31,	A. W. Boardman, Boston.
Bohemian,	20,000		E½ Sec. 31, NW¼ Sec. 32, T. 51, R. 37, W,	R. H. Rickard, 21 Nassau St., N.Y.
Boston,	20,000			H. W. Warren, 60 City Ex., B'st'n.
Canada,	100,000		Brome co., Canada East,	H. P. Mount, 3 Hanover St., N. Y.
Carp Lake, M.,	20,000		F. 51, N. R. 43, W. S½ of N½ of N. Sec. 14, and E½ Sec. 23, and NE¼ Sec. 23, 440 A.	W. H. Abel, 70 Wall St., N. Y.
Cascade, M.	20,000		SW¼ Sec. 9, T. 49, N. R. 39, W., in Ontonagon co., Mich.,	G. F. Riley, 35 Wall St., N. Y.
Copper Creek,	1,000	$100,000	Missouri,	H. M. Thompson, Missouri, Mo.
Copper Falls,	20,000		Sec. 14, T. 58, N. R. 31, W. Keewenah Point,	97 State, Boston.
Copper Harbor,	20,000		S½ Sec. 10, T. 58, R. 28, 320 A, Keewenah co.,	Fred. Beck, 43 City Ex., Boston.
Copper Creek,	20,000	500,000	Douglas co., Wisconsin,	T. B. Lawson, 73 Broadway, N. Y.
Central,	20,000	500,000	E¼ Sec. 23, T. 58, N. R. 31, W, Stratford, Orange co., Vt.,	J. Stanton, Jr., 25 Nassau, N. Y.
Cornwall,				D. H. Whitney, 17 State St., B'ton
Continental,	200,000	500,000	Martinsburg, New York,	J. Sickles, 50 Ex. Pl., N. Y.
Corinth,	20,000	500,000	Corinth, Orange co., Vermont,	W. A. Cleveland, 191 B'way, N Y
Copper Hill,			Wisconsin,	Boston.
Ducotah,	20,000		Sec. 35, T. 55, R. 34, Portage Lake,	J. M. Cooper, Milk St., Boston.
Delaware,	20,000	500,000		S. M. May, 326 Walnut St., B'st'n
Derby,			Ontonagon co., Mich.,	P. C. Blancan, 35 Wall St., N. Y.
Dorchester,	20,000		800 A.,	31 and 32 City Ex., Boston.
Douglas,	20,000		E¼ Sec. 30, T. 55, R. 3,	S. J. Edwards, William St., N. Y.
Dudley,				H. Bigelow 43, City Ex., Boston.
Eagle River,	20,000		T. 58, R. 31, Secs. 28, 29, 33, 34,	A. Lamson, 70 State St., Boston.
Ely,	100,000	500,000	325 A., Richmond, Canada East,	Ernest Sacchi, 82 B'way, N. Y.
Empire,	20,000		1798 A., Secs. 1, 2, 11, 12, T. 58, N. R. 28, W. K'w'n co., Min.,	J. S. McMullin, 423 Walnut, Phil
Eureka,	20,000		W½ Sec. 2, T. 49, N. R. 41, W. Ontonagon co.,	H. Shirley, 137 B'way, N. Y.
Evergreen Bluff,	20,000		NE¼ Sec. 6, T. 50, R. 38,	F. W. Capen, 44 Ex. Pl., N. Y.
Flint Steel R.,	20,000		Sec. 11, 12, T. 50, N. R. 39, W.	F. K. McCully, 137 B'way, N.Y.
Forest City,	20,000		320 A. NE¼ Sec. 36, and SE¼ Sec. 25, T. 51, R. 43,	J. F. Paul, 19 Phœnix Building, Boston.
Franklin,	20,000		SW¼ Sec. 24, T. 55, N. R. 31 W.,	C. Emery, 26 Kilby St., Boston.
Franconia,	60,000	300,000	New Hampshire,	J. Hanna, 162 Fulton St., N. Y.
French Creek,	100,000		Chester co., Pennsylvania,	R. Roberts, 21 Nassau St., N. Y.
Garden City,	20,000		SW¼ Sec. 60, N. W. Sec. 29, T. 58, N. R. 31 W,	R. H. Howe, Chicago.
Girard,	20,000		600 A. Sec. 15, T. 58, N. R. 28, W. Keweenaw co., Mich.,	B. A. Hoopes, 324 Walnut, Phil.
Gr'd Portage,	20,000		SW¼ Sec. 36, R. 34, W,	A. S. Kellogg, 22 Pine St., N. Y.
Great Western,	20,000		SE¼ Sec. 30, & SW¼ Sec. 29, T. 21, R. 320 A., Ontonagon	J. M. Cooper, 24 City Ex., B'st'n
Hamilton,	20,000		SE¼ Sec. 35, S½ Sec. 36, T. 50, R. 41, SW¼ Sec. 21, R. 20, 144¼ A.,	J. B. Townsend, 44 Exchange N. Y.
Hancock,	20,000		SW¼ Sec. 26, Tract of Sec. 25, T. 5, R. 34, W.,	Fred. Beck, 43 City Ex., Boston. do. do. do. do.
Hanover,	20,000			
Hartford,	20,000	500,000	320 A. E½ & SE¼ Sec. 32, SW¼ & W½ Sec. 33, T. 50, R. 40, W,	T. M. Tyng, 61 Cedar St., Boston.
Henwood,			Michigan,	
Hope,	20,000	50,000	240 acres in T 57, R 32, Kw co	21 Nassau St., New York.
Humboldt,	20,000		Sec. 21, T. 58, R. 31, W,	Hor. Bigelow, 43 City Ex., B'st'n.
Hudson,	20,000		Ontonagon co.,	P. C. Blancan, 35 Wall St., N. Y.
Huron,	20,000		Sec. 2, T. 54, R. 34, W,	Hor. Bigelow, 43 City Ex., B'st'n
Isle Royale,	20,000		NW¼ Sec. 1, T. 54, R. 34, W,	F. W. Chapen, 33 Ex. Pl., Boston.
Keweenaw,	20,000	500,000	Michigan,	F. W. Chapen, 44 Ex. Pl., Boston.
Knowlton,	20,000		SE¼ Sec. 1, W½ of SW¼ Sec. 1, and other lands,	Fayette Brown, Cleveland, Ohio.
Lafayette,	20,000		Secs. 25, 30, 36, T. T. 51, N. R. 43, and 44, W., Ontonagon,	P. C. Blancan, 35 Wall St., N. Y.
Lyster,	200,000	$400,000	Township Nelson, Canada East,	H. W. Nelson, 24 City Ex., B'st'n
Lower California	40,000	2,000,000	N. part of Lower California,	55 William St., N. Y.
Madison,	20,000		Part sec. 18, 19 entire, 30, 31.	Fred. Beck, 43 City Ex., B'st'n.
Merryweather,	20,000		Secs. 9, 19, T. 48, N. R. 4, W,	J. T. Waters, New York.
Mandan,	20,000		680 A. Secs. 8, 17, 19, 30, T. 58, N. R. 29, W., Keweenaw co., Min.,	B. A. Hoopes, 324 Walnut, Phil.
Manhattan,	20,000		W½ Sec. 11, NW¼ Sec. 14, T. 58, N. R. 32, W, 360 A.	J. W. Davies, 21 Nassau St., N.Y.
Mendotta,	100,000	500,000		M. Taylor, 30 Wall St., N. Y.
Mass. M. Co.,	20,000		SW¼ Sec. 7, T. 50, N.R. 38, W,	J. M. Cooper, Pittsburgh.
Mesquard,	20,000		NE¼ Sec. 24, T. 55, R. 34,	L. Burr, 12 Phœnix B'gs, Boston.
Melones & Stan.,			Calaveras co.,	606 Mont St., San Francisco
Minnesota,	20,000		Sec. 15, T. 50, N. R. 39, W,	S. M. Pond, 12 Pine St., N. Y.
Maryland,			Maryland,	Baltimore.
Merrimac,	20,000		NW¼ Sec. 34, T. 51, R. 38, W, Ontonagon,	J. M. Mills, 284 Pearl St., N. Y.
National,	20,000		Sec. 16, T. 50, R. 39, W. 1,988 A	J. M. Cooper, Pittsburgh.
Native,	20,000		Keweenaw Point, Michigan,	
Nashua,	50,000	100,000	320 A. N. Ontonagon.	W. F. Hardy, 27 City Ex., B'st'n.
Nebraska,	20,000		NE¼ Sec. 12, T. 50, and other lands,	S. W. J. Webb, 54 Wall St., N. Y.
Nequakett,	20,000		Sec. 26, T. 51, R. 43,	G. S. Frost, Detroit.
New York,	20,000		240 A. SE¼ Sec. 10, E½ Sec. 15.	H. W. Nelson, 24 City Ex., B'st'n.
New Burra,			Baltimore,	R. Robarts, 19 Nassau St., N. Y.
New Jersey Con.	100,000	1,000,000	New Jersey,	W. Bowes, 17 William St., N. Y.
N. Y. & Passaic,	100,000		Harrison, Bergen c.,	T. H. Belt, Jr. 23 William St., N.Y
New Devon,				T. H. Belt, Jo, do. do.
North Western,	20,000		W½ Secs. 24, 25, 26, E½ Secs. 36, 35, T. 58, N.R. 31,	17 William St., N. Y.
Norwich,	20,000	500,000	Secs. 11, 12, T. 40, N.R. 39, W. and other lands, 1,000 A.,	J. M. Cooper, Boston and Detroit.
Ogema,	20,000	500,000	NW¼ Sec. 6, T. 50, N.R. 33, W.	P. C. Blancan, 35 Wall St., N. Y.
Ontonagon,	20,000		634 A. Secs. 29, 21, 28, T. 50, N. R. 39, W. Rockland,	G. E. Lellingwell, 162 B'way, N.Y
Ont'n'g'n, Mass.	20,000		Ontonagon.	G. Hart, 11 Pine Street, N. Y.
Otisville,	100,000	500,000	Otisville, Orange co., N. Y.,	William D. Williams, Michigan.
Penn. Manuf'g.,	20,000	1,000,000	4320 A. Secs. 13, 14, 15, 24 ½ Secs. 10, 11, 12, 23, 25, T. 58, N. R. 30, W.	C. Windsor, 69 Wall St., N. Y.
Pewabic,	20,000		W½ Sec. 25, T. 55, N R. 34, W.	S. M. Day, 326 Walnut St., Phil.
Pitts. & Boston,	20,000		Ts. 58, 57, N. R. 31, 32, W. 1240 5 A.	C. Emery, 39 State, Boston.
Pontiac,	20,000		SE¼ Sec. 13, T. 55, N. S. 31, W.	H. A. Johnston, Pittsburgh.
Portage Lake,	20,000		Houghton co. Michigan,	C. Emery, Kilbey St., Boston.
Prescott,	100,000	1,000,000	Central Arizona,	22 William St., N. Y.
Providence,	20,000	500,000	240 A. in Keweenah co., NW¼ Sec. 10, W½, NW¼ Sec. 10, T. 57, R. 32, W.	69 Broadway, N. Y.
Phila. & Boston,	20,000		640 A. Sec. 14, T. 58, N. R. 28, W. Keweenaw co., Mich.	J. W. Davis, 21 Nassau St., N. Y.
Quincy,	20,000		Sec. 26, T. 54, N. R. 34, W,	J. S. McMullin, 423 Walnut St., Boston.
Republic,	8,000	200,000		W. H. Smith, 51 Ex. Pl., N. Y.
Reliance,	20,000		Secs. 21, 22, 27, T. 58, N. R. 28, W, 10,785 A.	H. Baldwin, 70 Wall St., N. Y.
Rochester,	200,000	500,000		H. K. Thomas, 11 Wall St., N. Y.
Ridge,	10,000		Sec. 35, T. 51, R. 38, W,	J. A. Ferguson, 8 Wall St., N. Y.
Rockland,	20,000		Sec. 11, T. 50, R. 39,	S. J. W. Barry, 12 Pine St., N.Y.
Resolute,	20,000		1120 A. Secs. 7, 18, 19, T. 58, N. R. 29, W. Keweenaw co., Mich,	
St. Mary,	20,000			F. Beck, 45 City Ex., Boston.
St. Margaret,	200,000	1,000,000	Canada,	E. B. Sutton, 64 & 66 B'way, N.Y.
Sharon,	20,000		Ontonagon co., Mich.,	P. C. Blancan, 35 Wall St., N. Y.
Sheldon & Col.,	20,000		SE¼ Sec. 36, T. 55, R. 34, W,	S. J. Edwards, 22 W'm. St., N. Y
South Side,			SE¼ Sec. 34, T. 55, R. 34, W,	H. W. Nelson, Boston.
Societe Fran'se,	10,000		T. 58, 59, N. R. 28, 30 W,	Copper Harbor.
Suffolk,	20,000			Carlos Cobb, 22 William St., N. Y
Superior,	20,000		W¼ Sec. 14, T. 50, N R. 39, W.	S. J. W. Barry, 12 Pine St., N. Y
Toltec Consol.,	20,000		Secs. 25, 26, R. 50, R. 36,	H. W. Nelson, Boston.
Union,	20,000	500,000		A. S. Kellogg, 22 Pine St., N. Y
Tral,			Wisconsin.	17 William St., N. Y.
Vulcan,	20,000		1120 A. Secs. 7, 17, 18, T. 58, N R 27, W Keweenaw co.,	F. K. Womrath, 324 Walnut, Phi.
Victoria,	20,000		Secs. 20, 29, 30, 34, 34, T. 50, R. 39, and other lands.	L. W. Clarke, Boston.
W. Minnesota,	20,000		Secs. 17, 18, 19, T. 50, N. R. 39, W.	C. T. Howard, Boston.
Wekopee,	100,000	500,000	Massachusetts.	G. A. Sneden, 12 PineSt., N. Y
Vermont,	100,000	500,000	W. Fairlee, Orange co., Vt.,	
Wauka Yuma,	600,000	6,000,000	Arizona,	35 William St., N. Y.

S, means section; T, township; R, range

AMERICAN

Journal of Mining.

[ILLUSTRATED.]

GEORGE FRANCIS DAWSON,
EDITOR.

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MINERAL DEVELOPMENT.

When we compare the mineral developments of the Present with those of the Past, and note the gigantic strides that have been made even by our own generation, it is impossible to avoid the conclusion that the world's progress, in this as in other paths of science, has been absolutely marvellous. Two centuries ago the use of coal as a fuel was almost unknown. But now we find that in England—which contains the largest coal deposits in the Old World—an area of 140 miles in length by about 80 in width yields no less than 86,000,000 tons of coal annually; that Europe now produces 135,000,000 tons per annum and that the coal fields of the United States, with an area of 146,857 square miles, yield annually about 20,000,000 tons. The development of iron has likewise been remarkable. That of past generations was mainly taken from the northern and midland counties of England and a portion of the Scandinavian peninsula. Now it is found in large quantities in many parts of the world—particularly on this continent. In the United States the Franklinite ore of New Jersey, and the Salisbury ore—the latter of which is especially valuable for making cast iron chilled wheels—have recently become famous, and both of them have been exported to England in considerable quantities. But for the universal scramble for gold, silver and petroleum, the iron mines of America would have been developed even to a greater extent than now. Look again at copper, whose ores have, in a great measure, been supplied to the world so far back almost as history reaches, by the mines of Cornwall, England, from an area of but seventy miles in length by fifteen in average breadth. How insignificant is this space, compared with the modern discoveries of the immense deposits in Michigan, Chili, Australia and South Africa! Also with regard to lead, how great has been the advance! Prior to 600 years ago the limited supply of lead vouchsafed the world, is generally supposed to have come from Derbyshire, England—although we imagine the spoils of lead taken by Moses from the Midianites must have come from some place less remote—but it has since been found in large quantities in other counties of Great Britain. Spain has also become a large producer of argentiferous galena; and the lead mines of Wisconsin, Iowa and Illinois are familiar in men's mouths as household words. With regard to tin, the development has not been so remarkable. England produces about nine-tenths of all that is at present supplied by the earth; but recent discoveries of stream-tin in Idaho, and elsewhere in the United States, give abundant promise that the latter may some day compete with the former. As to gold and silver it is perhaps almost superfluous to say that besides the increased product of the old mines still being worked, that of those lately discovered has been prodigous. In gold the yields of California, Montana, Idaho, Colorado, Oregon, Australia, British Columbia and Canada, have been truly wonderful. As a silver-producer, the New World is also a marvel to the Old. The patriarchal Abraham may have indulged in household utensils of gold and of silver in his day, but how he would have glorified in the ownership of the Comstock silver lode, with $15,000,000 product per annum, or even the Allison Ranch gold mine! Greater aggregations of both these metals may have been made in ancient times than any that can now be boasted of—for Cyrus is said to have collected from Asiatic conquests as much as $39,600,000,000 of silver, which must have been collected in the shape of utensils, etc., for centuries and centuries—but what period of time, since God made the earth, can boast a *tythe* of the mineral and metallic producing power of the present? When we think of the few short years during which these great developments have, for the most part, been made, and then look back at the dull, lagging centuries behind them; when we reflect upon the tremendous impetus with which Science and Art are sweeping along, and how the spirit of right-enterprise is born and brought up to the self-sustaining vigor of manhood by the Genius of Liberty, we cannot avoid the conviction that the mineral developments of the past are but mere outcroppings of the vast treasures yet to come to light.

WANTED.—MINE MACHINERY.

The great French International Exposition appears to have dimmed a lesser light called the Australian International Exhibition. A stray beam, however, has found its way here, for we notice in the columns of the *Scientific American* a letter from the Secretary of the Institution, which states that "there is a great want of improved mining machinery of all kinds, both for metal and coal, for boring and for tunnelling the earth, and also for drilling through rock." The letter also states that after the exhibition, the building will become a public museum in which articles may remain for permanent exhibition. Here is an excellent opportunity for our enterprising inventors to show the Australians how completely they are behind us in nearly everything relating to mining, milling and so on.

A "DANGEROUS" SUBSTANCE.

The San Francisco *Morning Call*, of recent date, contains an article which seems to us to convey the idea that sodium amalgam is a dangerous substance, which is untrue. It may have intended to inform its readers that the metal *sodium* itself is dangerous, which is a fact, but not to the extent stated. Let our contemporary, or any of our other readers desirous of testing the matter, take a piece of sodium about the size of a half-dime and drop it into a tumbler of water, and he will see the metal almost immediately ignite, with a strong, clear, whitish light, burning about as long as the sulphur on a "lucifer match," leaving a black ash and a cracked glass. No other effects will be observed.

CHILI COPPER.

One of the principal sources whence copper is derived is Chili. The richest lodes and deposits have, it is said, been exhausted; but the supply of copper still comes, notwithstanding the war in which the Chilian Government is engaged. The copper yielding districts are of very great extent, and appear to be capable of supplying the markets of the world. The peculiar mining laws of Chili tend to keep up the supply, notwithstanding a slackness of demand. If a Chilian miner finds his sett becoming less productive, he has not only the inducement to continue his operations which a hope of its increasing in richness holds out, but also the certainty that, if he abandon his mine, even for a short time, he loses his claim, and Government may re-let it. Again, many of the mines are worked with borrowed capital, and the owners are content if they can pay the interest and obtain a moderate remuneration for their labor. From these reasons we can understand that it takes some time before the decline of the market value of copper affects the exports from Chili. That the war with Spain is likely, however, to disturb the trade, is probable, since, by late accounts, it appears that the Spanish vessels have captured several cargoes of coal destined for smelting purposes.

PRESERVATION OF TIMBER IN MINES.

The San Francisco *Miner* states the following interesting fact: "In an ancient copper mine in the south of Spain—the Mine de Riotonto—which is known to have been worked upwards of 1800 years ago, the timbers that support the drifts run in those remote ages, are as stout and as strong to-day as when they were first set up, their preservation being due to the presence of sulphate of copper in the waters that percolate through the rock over the timbers." He deduces from this that the cheapest and best preservation for timber in our mines may be a solution of the sulphate of copper applied to the wood. It may be so, but we doubt it. In the case of the timbers of the Spanish mine there has been, apparently, a constant flow of the sulphate of copper on the end of the beams, and the sap has, probably, been thus substituted by a mineral composition. When preparing wood now for preservation the process is to inject creosote, or some other substance in place of the sap. We do not think that a mere washing would be of material service.

GAS FROM WOOD.

Mr. Ensely, of Canada, has dicovered a method of obtaining gas from wood. He has taken out a patent in this country and the British Provinces. It is claimed that 4,500 feet of gas can be produced from half a cord of wood and a barrel of bones, and that the substances remaining in the retort after this result is obtained are also of commercial value: the wood being transmuted into charcoal, tar and turpentine; the bones into ivory black, phosphorus, and ammonia of a superior quality. The apparatus is said to be exceedingly simple and easily worked.

Scientific Meetings.

[SPECIALLY REPORTED FOR THE JOURNAL OF MINING.]

SOCIETY FOR THE ADVANCEMENT OF SCIENCE AND ART.

At the last meeting of this Society, Mr. Sherwood, of Texas, delivered an address upon his new plan of Railway—a condensed report of which we give.

This city is the meeting place at which the produce of the West can be most readily exchanged for the manufactures of the East—hence the prosperity of New York. Nature has provided the safe harbor, and our predecessors have made, by means of canals and railroads, convenient inlets and outlets for merchandize. But there is a cry raised for more accommodation; the matter was considered at the convention in Chicago, and again in the succeeding one in Detroit, but nothing practical was done, A canal around Niagara Falls was talked of, but this would not be satisfactory, because during five months in the year it would be closed by ice; were it not so our present canals could afford all the accommodation required. The rates upon them are sufficiently low, they are managed by the State for the benefit of the people—not solely for profit—and in their construction very nearly a dollar's worth of work was had for a dollar. They have saved the country immense sums directly, and also indirectly by competition with the railway companies. Very different is the state of things with the railways. Taking an average of all the lines there is not more than fifty-five cents to show for a dollar's investment, the rest has been squandered through bad management and worse. All their *materiel* was bought on credit, their contractors were paid in bonds which, at the time they were received, were worth less than half the amount they represented. Money was borrowed at an extravagant discount, and the public are expected to pay dividends on a shadow instead of on a railway and rolling stock. Usually the first stockholders are sacrificed, but still the amount of expenditure of stock remains nominally the same, and the dividends appear much less than the reality, because, on an average, 45 per cent. of the stock really represents a shadow—a thing of naught.

In the project we are about to consider I expect we shall go upon a cash system. It was the plan I adopted when purchasing for one of the Texan railroads. The contractors, on hearing we paid cash, opened their eyes—never had been such a thing heard of—$5 per ton was at once knocked off for iron, 15 per cent. off for rolling stock, and so on. This plan, too, stimulated the owners of property, who, in consequence, gave us land at the lowest market value, while they took payment in shares.

Now you may understand that we may have railways constructed cheaper than is usually done; but I proceed to show that one railroad on the proposed plan will convey ten times as much freight as any other line. To state the proposition is to prove it. I have never mentioned it to any person familiar with the working of railways, but that he has seen its advantages at a glance. I propose then to construct a double track railway, say on the line of the Central of New York, or further South, free to all trains on payment of a toll, as is done on a canal or highway; but I limit the speed to one unvarying rate, the rate which shall be found by experience to be the best. By the present system you must keep back the freight trains for the passage of the passenger trains, and not more than fifty trains per day can run on a railway; by the proposed plan five hundred can run without difficulty. In short, you can on one line convey all the freight cars of all the railways in the union. Not only so, but by allowing any one to run trains on the line, the rates of carriage will be reduced to the lowest remunerating point. Utica would have its own cars running in its own district and supplying the wants of its inhabitants. Detroit its own cars, and so on. They will stand in a siding until loaded, then on to the line, and, their journey completed, back again to their own station.

We have been too much the mere copyists of the British in our railway system, and what may pass for that small island is inapplicable to this vast continent. There, go where you will, you cannot be more than 150 miles from a seaport, and fast trains and slow trains may travel on the same line without practical inconvenience. Here we may measure the distances by the thousand miles, and have to inquire how far a barrel of flour can travel before it is eaten up by expenses. It has at times been found economical to burn corn for fuel in the West, rather than to exchange it for the coal or manufactures of the East. But taking the matter of coal as an example, I see no reason why this mineral should not be brought to New York at a price of $3 to $5 per ton, instead of $12 per ton, at which it stood during the past winter. This is a matter which comes home to the people, and I expect the people to push this project through.

Original Papers.

WRITTEN FOR THE JOURNAL OF MINING.

SALT.—Number Three.

By FRANCIS E. ENGELHARDT, Ph. Dr., Professor of Chemistry in St. Francis Xavier's College.

Salt, as stated in a former number of the JOURNAL OF MINING, is found in a natural state, or is manufactured from sea and lake water, or from brine.

That the ancients were acquainted not only with rock salt, but also with the manufacture of salt from brine, is amply shown by Pliny in his Natural History.*

Moreover, the ancient salt manufactories of the Romans in Italy and the provinces contributed much to the prosperity of the empire, since, for instance, they exacted a tribute from the salt-works of Droitwich in ancient Britain, and paid their soldiers partly with salt: whence the English word salary takes its origin, "sal" being the Latin for salt.†

SALT FROM SEA WATER.

The ocean is the great reservoir of salt, since it contains, according to scientific investigations, from 24.86 to 26.66° of pure salt in 1000 parts, which gives, according to Schafthaute, the enormous sum of 3,051,342 cubic miles of solid salt for the water of the entire ocean. From 300 to 350 gallons of water are required for the production of one bushel of salt—one gallon of water being equal to about four ounces of salt. The quantity of salt varies a little in the different parts of the sea. Those parts that are nearer to the equator, where evaporation is greater, and less of river water enters, are richer in solid matter than those in the more moderate zones, which is clearly shown in the three following analyses, taken from Knapp's Technology:

	Clemm. North Sea.	Marcet.	No Authority Given.
Chloride of sodium (salt)	24.84	26.66	25.00
Chloride of magnesium	2.42	5.15	3.50
Chloride of potassium	1.35	1.23	....
Sulphate of lime	1.20	1.50	0.10
Sulphate of magnesia	2.06	....	0.58
Sulphate of soda	....	4.66	....
Carbonate of lime & magnesia	....	....	0.20
Total amount of salts	31.87	39.20	29.38

A fair average of the composition of sea water is, according to Muspratt's Technology:

Water	96.470
Salt	2.700
Chloride of potassium	0.070
Chloride of magnesium	0.360
Sulphate of magnesia	0.230
Sulphate of lime	0.140
Carbonate of lime	0.003
Bromide of magnesium	0.002
Iodides, &c	0.025
Total	100.000

The large amount of salt taken every year from the water of the ocean in the different warmer countries bordering on the sea, is more than compensated for by the quantity that is dissolved from the rocks and soil, and carried to the vast deep by innumerable streams and rivers. Martius has calculated that the river Saale, in Germany, alone receives annually 175,000,000 of pounds of salt from the salt spring at Dürrenberg; and, notwithstanding this large amount, hardly a trace of salt can be detected where the Saale enters the Elbe. I certainly must not omit to mention here, that even in the colder climates the ingenuity of man has found the means for depriving old Father Ocean of some of his salt by the freezing process. As early as the beginning of the last century it was well known that salt water, when freezing, would leave nearly all its earthy substances in that quantity of water that remained unfrozen, and thus forming a very strong brine, as is seen from the experiment of Captain Middleton, who, being, in July, 1738, in the Hudson's Straits, took ice, which he melted, and evaporating about 40 quarts of it, received only six ounces of solid residuum, as my authority states. The knowledge of this fact induced the Russians to establish salt works at Archangel, in which the remaining liquid from large quantities of frozen sea water is evaporated by artificial heat, to extract the salt. In the beginning of the last century, Sea salt or so-called "Bay salt" was manufactured by artificial heat in those parts of England where fuel could be had easily and cheaply. A description of this process, and of the manufacture of salt in general, as then practiced, may be found in "The Art of Making Common salt," by William Brownrigg, M.D., F.R.S., London, 1748. He states, among other things, that the expense for making 40 bushels of salt, in Northumberland and Durham, was sixteen shillings and sixpence for small pit coal, and four shillings for the labor of the salt-boilers.

* Sunt et montes nativi salis, ut in Indis Oromenus, in qua lapicidinarum modo cæditur, renascens: majusque regum vectigal ex eo est, quam ex auro atque margaritis. Effoditur et e terra, ut palam est, humore densato, in Cappadocia. Ibi quidem cæditur specularium lapidum modo. Pondus magnum glebis, quas micas vulgus appellat. Carrhis Arabiæ oppido muros domesque massis salis faciunt, aqua ferruminantes. . . . Siccatur in lacu Tarentino æstivus solibus, totumque stagnum in salem abit, modicum aliquin, altitudine genua non excedens. Item in Sicilia in lacu, qui Conanicus vocatur, et alio juxta Gelam. Horum extremitates tantum inarescunt; sicut in Phrygia, Cappadocia, Aspendi, ubi largius coquitur, et usque ad medium lacum. . . . Gallicæ, Germaniæque, ardentibus lignis aquam salsam infundunt. Quercus optima, ut quæ per se, cinere sincero, vim salis reddat: alibi corylus laudatur; ita, infuso liquore, carbo etiam in salem vertitur. Quocunque ligno conflt, sal niger est.—PLINIUS NAT. HIST. LIB. XXXI. C. 7.

† The levying of taxes on salt was, as far as I am informed, first practised by the Maccabees, and also by Ancus Martius, fourth king of Rome, B. C. 640. The salt taxes were abolished in England in the year 1824.

Correspondence.

[*To insure insertion of Correspondence in our columns the full name and address of the writer must be given.*]

Nitro-Glycerine Experiments.

MARQUETTE, Mich, May 25, 1866.

EDITOR JOURNAL OF MINING:

SIR: In your paper of May 12th, in the article upon "Nitro-Glycerine Experiments," I am represented to have made certain statements contradictory to those of Mr. Nobel. The facts in the case are these: Some eighteen months ago I made experiments with Nitro-Glycerine of my own manufacture, and had a premature explosion immediately after having compounded it, in two instances. In the course of the following summer (1865) I gave a statement of my experience in a private letter, which has lately found its way into print without my knowledge, and has been cited as relating to Mr. Nobel's compound. It is but just to Mr. Nobel to say that these experiments were made, and my letter was written before his preparation was known in this country, and that my statement was founded on my experience with a composition of my own, instead of his. I have since seen and used Mr. Nobel's Nitro-Glycerine, and am satisfied that he has overcome the original difficulty I encountered in preparing it, and I hope he may yet prove successful in obviating all risk of its accidental explosion when handled with ordinary care. S. P. ELY.

MINING COMPANY STATEMENTS.

PROVIDENTIAL SILVER MINING COMPANY.—CAPITAL STOCK $2 500 000; 125.000 SHARES, $20 EACH.

The property of this Company, according to its statement, is principally situated in the Reese River Mining District, Lander County, Nevada, and consists of silver mines, real estate, and personal property. The silver mines are:

Providential Mine,	800	feet.	300	feet	in the	Campbell	Mine.
Parrott	"	800	"	200	"	Brutus	"
White	"	800	"	200	"	Bourbon	"
St. Louis	"	1,000	"	200	"	Mississippi	"
Park	"	1.400	"	200	"	Lady Hunt	"
Crescent	"	1.400	"	100	"	Manhattan	"
Caledonia	"	2.000	"	25	"	North Star	"

And the Granite Hill Tunnel.

Some of the ledges have been developed with good results. An incline shaft has been sunk on the Providential ledge to the depth of two hundred and two feet, from which levels have been run in opposite directions on the lode, one to the distance of fifty and the other to that of thirty feet, which expose a continuous vein of from three to five feet in thickness, and from which ore has been extracted which yielded two hundred and seventy-eight dollars to the ton, by mill process, and upwards of two thousand dollars, by fire assays. The real estate consists of valuable property in and about Austin. The personal property: A sixteen stamp mill, complete, with five roasting furnaces, superintendent's office, carpenter and blacksmith shops, five dwelling houses, barn, etc., forming a small village on the banks of Big Creek. The mines, mill and timber, combine advantages which render them not inferior, if not superior, to any others in the State of Nevada. 37,500 shares of the capital stock are to be disposed of as the Trustees may direct, for the purpose of developing the mines, etc., and the residue of said thirty-seven thousand five hundred shares is to be distributed among the present shareholders in proportion to their present respective number of shares *provided*, that such distribution shall not be made until there are sufficient funds on hand to pay such indebtedness, and a surplus of twenty thousand dollars, in cash, in the treasury, or until the trustees shall be of opinion that no further amount will be r

quisite to develop the mines or otherwise improve the property of the Company. Company's office, 17 Broad street, N. Y.

NEW YORK SILVER MINING COMPANY OF NEVADA.—CAPITAL, $1,500,000; SHARES $100 EACH.

According to statement, this Company is based upon two mines in the city of Nevada, viz: Troy, 800 feet. McManus, 800 feet. The Troy is now being worked with very gratifying results; over $15,000 in bullion has been taken out. The average value of the ore worked is over $350 per ton. Professor E. Clayton, of Austin, a practical mining engineer, says in his report upon the Troy mine, "that if this mine is worked with the true established rules of mining science, there need be no fears of the results;" and he further says, "I have no hesitation in pronouncing it a true fissure vein, and one worthy of a thorough exploration and development, and it is unquestionably rich and valuable if properly worked." This Company contemplates erecting a large first-class mill in the city of Austin; they have already purchased and paid for the machinery, which is now at San Francisco ready for shipment. The engine power is of sufficient capacity to run a thirty stamp mill and additional stamps will be added as soon as the mill is in successful operation, which will increase the capacity of the mill so as to work forty tons of ore per day. The shaft has now been put down on the incline upon the Troy mine, two hundred feet, and upon the other sixty feet; and at this depth they show veins of three feet in width, increasing in width and richness of ore the further they go down. A limited number of shares of full paid stock can be had at the office of the Company, 80 Broadway, N. Y.

DIVIDEND.

EUREKA LAKE AND YUBA CANAL CONSOLIDATED COMPANY have declared from their net earnings in January, February and March, 1866, of $53,495.15 in gold, a Quarterly Dividend of $2.50 per share in gold, payable at the office of the Company on June 5th, 1866.

MEETINGS.

THE GRANITE STATE OIL COMPANY.—Office of Allan Hay & Co, 33 Broad street, N. Y. Annual Meeting for the election of Trustees, 6th June, 12 M.

CUMBERLAND COAL AND MINING COMPANY.—Office corner Broadway and Wall street, N. Y. Annual Meeting for the election of President and Board of Directors, 4th June.

AMERICAN EXPLORING AND MINING COMPANY.—Office 20 Exchange Place, N. Y. Annual Trustee Meeting, 4th June.

SHELDON AND COLUMBIAN COPPER MINING COMPANY.—Office 22 William street, N. Y. Annual Stockholders' Meeting, 6th June.

MARKET REVIEW.

FRIDAY EVENING.

From respect to the memory of Lieut.-Gen. Scott there have been no business transactions on 'Change. The money market is in a healthy condition, and is gradually recovering from the heavy depletion, caused by the rupture in financial affairs in Europe. The drain during the two weeks ending May 26th, was $22,000,000 nearly equal to the annual exports of specie during the past few years. The prices of gold closed yesterday at 140½. The money market is easy at 6 per cent. and in some cases with government collaterals at 5 per cent. Bankers bills on London at 60 days 109½@108⅝, at three days sight 110⅞@111.

The market for Government and railway stock has been firm and prices continue to advance. Petroleum and mining stocks are in less demand and lower with some exceptions. For particulars we refer to our tabular statements of stock quotations.

Copper.—There has been considerable sales of Copper during the past week, at somewhat higher prices. Baltimore at 29½@30c.; Detroit, 31@31½c.; Portage Lake, 29½@30½c. Sheathing and Yellow Metal are in slack demand, owing to the ship carpenters' strike.

Iron.—Prices firm, but without much activity. The stock of Scotch Pig here is about 6,000 tons. Small sales of Glengarnock at $43.50@$44.50, and Gartsherrie at $47. The price in Glasgow has fallen to 53s. 6d. Prices of American has advanced $1 per ton. Sales are quoted of 800 tons No. 1 at $42, and 400 tons at $43.

In Bar Iron there is no change. Prices are firm and tending upward.

Tin.—The demand for Pig is small. Plates are firmer, and in moderate request, following the increased price of gold. IC Charcoal, $10; Coke $8.75@$9.

Lead—Firm and unchanged in price.

Quicksilver—is quiet, with steady sales at 80c. per flask.

Coal.—The receipts of Domestic are larger. Prices have declined. Foreign without change. 30,000 tons of Scranton Coal were sold on Wednesday. The following shows the prices, as compared with last sale, exhibiting ad advance on all except house coal:

Tons.	May 30.		May 9.	
3,000 Lump...	$6 12½@5 25		5,000 Lump.....$6 00	@$—
3,700 Stm'boat	6 37½@6 50		2,500 Steamboat 6 00	@ 6 25
4,500 Grate....	6 50	@6 62½	3,000 Grate..... 6 80	@ 6 90
3,500 Egg.....	6 50	@6 75	3,000 Egg..... 6 25	@ 6 50
7,000 Stove...	6 50	@6 75	3,000 S ove..... 6 50	@ —
3,500 Chestnut	5 50	@5 75	2,000 Chestnut.. 5 35	@ 5 50

The Pottsville *Mining Journal* says: The quantity of coal sent by railroad this week is 94,020.06—by canal, 40,279.00—for the week, 134,290.06 tons, against 15,762 tons for the corresponding week last year, when the trade was almost entirely suspended.

The shipment this week is the heaviest ever made from Schuylkill County, by 14,702 tons, and shows our capacity for producing coal.

The demand for coal is good at present, and prices are firm, but there has been no advance either here or at the shipping ports. The business, however, is not profitable, and our impression is that there is a loss on the aggregate quantity of coal sent to market from this region.

The trade sums up this weeks as follows, compared with last year:

	WEEK.	SEASON.
1866, total by Rail and Canal	259,080	3,766,635
1865, corresponding time	129,511	2,780,347
Increase, tons	142,569	986,588

Petroleum.—The market is firm, but without animation. Sales at 26½@27c. for Crude; 41½@42c. for refined, in bond, and 58@60c. for refined, free.

Salt—The stock of Liverpool is moderate. Prices well sustained. Other kinds quiet.

Liverpool, ground, ₱ sack	$1 50@	$1 60
Liverpool, fine, Ashton's	Gold	2 75
Liverpool, fine, Worthington's	2 85@	—
Liverpool, fine, Seifreys & Darcey's	—@	2 85
Turk's Islands ₱ bush	35@	47½

NEW YORK METAL MARKET.

(CORRECTED WEEKLY.)

ANTIMONY	Regulus, ₱ lb	$ 00 12½@	$ 00 13
	Crude	.. ..	.. ..
BORAX		.. 33	.. ..
BRIMSTONE		67 50	72 50
COPPER	Ingot, Lake Superior, ₱ lb., cash	.. 29	.. 30
	Baltimore	.. 29½	.. 30
	Pig Chili	.. 28	.. ..
	Bolts	.. 43	.. ..
	Braziers	.. 42	.. 43
	Sheathing	.. 40	.. ..
	Yellow metal	.. 32	.. ..
IRON—Pig	No. 1 Scotch, ₱ ton	45 50	47 00
	No. 1 American	42 00	43 00
	No. 2 "	38 00	40 00
	No. 2 Charcoal	.. ..	.. ..
Bar	Swedish, ordinary sizes	150 00	.. ..
	Amer. and Eng refined	110 00	115 00
	" common	100 00	105 00
Rails, American currency		.. 85	.. ..
" English gold		.. 56	.. ..
Horse shoe iron		135 50	145 50
Rods 5-8 and 3-16 rd. and sq.		122 50	185 00
Band		145 00	.. ..
Nail rods, 5-8 and 3-16		122 50	185 00
Hoops		145 00	215 00
Sheets, Russian, ₱ lb		.. 31	.. 32
" English "		.. 6¼	.. 9
" American "		.. 25	.. 25½
Boiler Plates, English		.. ..	.. ..
" American		.. ..	.. ..
STEEL	Best cast in bars, war	.. 23	.. ..
	Best sheet cast, "	.. 23	.. ..
	Best cast circular saw plates 46 in	.. 29	.. ..
	Double shear steel, war	.. 23	.. ..
	Single " " "	.. 20	.. ..
	Montague & Co. C. S., in bars	.. 20	.. ..
	Round machinery cast	.. 16	.. ..
	Best German	.. 16	.. ..
	Government German	.. 13	.. ..
	Eagle German	.. 14	.. ..
	(L.) Blister, war	.. 20	.. ..
	W. Jessop & Sons, blister, war	.. 17	.. ..
	Double refined	.. 25	.. ..
	Stone Axe shapes	.. 25	.. ..
	Common blister	.. 14	.. ..
	2d quality sheet	.. 20	.. ..
	3d quality sheet	.. 17	.. ..
LEAD	American, per 100 lbs	.. ..	.. ..
	German	8 50	8 75
	Spanish	8 50	8 75
	English	8 50	8 75
	Bar, per 100 lbs	9	.. ..
	Pipe and sheet	11½	.. ..
TIN	Banca Gov., per 100 lbs. gold	21	.. ..
	Straits	19½	19¾
	English	19½	.. ..
TIN PLATES	IC 10-14 prime charcoal	14 00	.. ..
	IX 10-14 " "	16 75	.. ..
	IC 12-12 " "	14 50	.. ..
	IX 12-12 " "	17 25	.. ..
	IC 14-20 " "	15 00	.. ..
	IX 14-20 " "	17 75	.. ..
	IC 14-20 Roofing ch. 1st	13 00	.. ..
	IC 14-20 " " 2d	12 00	.. ..
	IC 14-20 " Coke	10 25	.. ..
	IC 10-14 Coke	11 00	11 50
SPELTER	L'high, per lb., currency	.. 10¾	.. 11
	Foreign " gold	.. 7	.. 7¼
ZINC	Mussulman & Amer	.. 12	.. 12½
SOLDER	No. 1	.. 25	.. ..
	No. 2	.. 22	.. ..
QUICKSILVER		.. 80	.. ..

LONDON METAL MARKET.

LONDON, MAY 18, 1866.

		£. s. d.		£. s. d.
COPPER	Best selected, per ton	89 0 0	@	.. .. ..
	Tough Cake & Tile, per ton	86 0 0		.. .. ..
	Burra Burra " "	90 0 0		.. .. ..
	Copper wire, per lb	0 0 11¾		.. .. ..
	" tubes, " "	0 0 12¾		.. .. ..
	Sheathing & Bolts, per ton	91 0 0		.. .. ..
	Bottoms, " "	96 0 0		.. .. ..
	Old (Exchange)	77 0 0		.. .. ..
IRON	Bars Welsh in London	7 10 0		8 0 0
	Do. to arrive	7 10 0		7 12 6
	Nail rods	8 7 6		9 5 0
	Do. Stafford in London	8 15 0		8 17 6
	Bars " "	8 15 0		10 0 0
	Hoops " "	9 15 0		10 10 0
	Sheets, single	10 7 6		11 0 0
	Pig No. 1 in Wales	4 5 0		4 10 0
	Refined Metal, do	4 0 0		5 0 0
	Bars Common do	6 15 0		7 5 0
	Do. Merch. Tyne or Tees	7 10 0		.. .. ..
	Do. Railway in Wales	6 10 0		6 15 0
	Do. Swede in London	11 10 0		.. .. ..
	To arrive	11 10 0		.. .. ..
	Pig No. 1 in Clyde	2 15 0		3 0 0
	Do. f. o. b. Tyne or Tees	2 9 6		.. .. ..
	Do. Nos. 3, 4, f. o. b. Do	2 6 6		2 5 6
	Railway Chairs	5 10 0		5 15 0
	Do. Spikes	11 0 0		12 0 0
LEAD	English Pig Common	21 0 0		.. .. ..
	Do. ordinary soft	21 5 0		21 7 6
	Do. (W. B.)	22 10 0		22 15 0
	Do. Sheet	21 15 0		.. .. ..
	Do. Red Lead	23 10 0		24 0 0
	Do. White	27 0 0		30 0 0
	Do. Patent Shot	23 15 0		24 0 0
	Spanish	20 5 0		20 10 0
STEEL	Swedish in kegs, rolled, p ton	13 0 0		14 0 0
	Do. hammered	15 0 0		16 0 0
	Do. in faggots	16 0 0		16 10 0
	English Spring	19 0 0		23 0 0
QUICKSILVER	Per bottle	7 0 0		.. .. ..
SPELTER	Foreign, per ton	21 0 0		.. .. ..
	To arrive " "	21 0 0		.. .. ..
ZINC	In Sheets	28 0 0		.. .. ..
TIN	English Blocks	85 0 0		.. .. ..
	Do. bars in barrels	86 0 0		.. .. ..
	Do. refined	88 0 0		.. .. ..
	Banca	78 0 0		.. .. ..
	Straits	75 0 0		.. .. ..
TIN PLATES*	IC Charcoal, 1st qu., per box	1 13 0		.. .. ..
	IX Do., 1st quality "	1 19 0		.. .. ..
	IC Do., 2d quality "	1 11 0		.. .. ..
	IX Do., 2d quality "	1 17 0		.. .. ..
	IC Coke	1 6 6		1 7 0
	IX Do.	1 12 6		1 13 0
	Canada Plates, per ton	13 10 0		.. .. ..
	In London; 20s. less at the works.			
YELLOW METAL	Sheathing, p lb	0 0 8½		.. .. ..
	Sheets, per lb	0 0 8½		.. .. ..
INDIAN CHARCOAL	Pigs, in London	7 0 0		7 10 0

* At the works. 1s.@1s. 6d. less.

SALES OF ORES.

LEAD.

		TONS.	£. s. d.	PURCHASERS.
MAY 7	Islay Mining Co	67	14 11 0	Walker, Parker & Co
" 11	Great Laxey "	100	22 17 0	Sheldon, Bush & Co
" 14	Frongoch "	60	12 15 0	Newton, Keats & Co
" "	" "	60	12 16 0	" "
" "	East Darren "	37½	16 5 0	" "
" "	" "	37½	16 5 0	Sheldon, Bush & Co
" "	Cuna Erfin "	20	17 7 6	" "
" "	" "	45	17 4 0	" "
" 17	Frank Mills "	40	18 5 0	Burg. Post & Co
" "	" "	65	12 16 6	Mitchell & Co

BLOCK TIN.

		T.	C.	Q.	Lbs.	£. s. d.	£. s. d.
MAY 10	Wheal Trevenna	5	15	3	4	95 5 0	261 19 3
" 14	Great Wheal Voo	70	16	1	1		5644 6 1

COPPER.

SOLD AT TRURO, MAY 17.

MINES.	TONS.	PRICE.	MINES.	TONS.	PRICE.
Dev. Gt. Con.	2,112	£7 8 4 8 2 6	E. W. Russell	128	461 0 6
K'ge'n D'n	603	1,901 5 6	Bedl. United	118	557 9 0
Marke Val...	423	1,342 1 6	Wheal Emma	113	636 8 6
S.W. Martha.	526	494 18 0	Lady Bertha.	55	94 17 6
East Caradon	366	1,250 2 6	Prince of W.	46	440 5 0
Okel Tor ...	301	985 10 6	N.E. Russell.	33	153 5 0
Wht. Friend.	190	1,073 7 0	Collacombe..	9	20 18 6
Dev. & Corn	182	462 17 0	Opies Precip.	3	63 0 0

Average Standard, £115 2 0; Average Produce, 5¼; Average Price per ton, £3 12 6; Quantity of Ore, 4,945 tons; Quantity of Fine Copper, 274 tons; 1 cwt; Amount of Money, £17,945 10 6.

Previous Average Standard, £112 7 0; Average Produce, 5¼; Standard of corresponding sale last month, £119 0 0; Produce, 5⅛.

BY WHOM PURCHASED:

NAMES.	TONS.	AMOUNT.
Vivian & Sons	727½	£2,724 5 9
Freeman & Co	158½	917 10 0
Grenfell & Sons	220	1,508 4 6
Sims, Willyams & Co	531½	1,938 17 0
Williams, Foster & Co	858	3,485 5 6
Mason & Elkington	518½	2,056 4 9
Bankart & Sons	462½	1,467 17 3
Copper Miners' Company	331	1,145 0 6
Charles Lambert	522	1,868 12 6
Newton, Keates & Co	128	620 16 6
Sweetland, Tuttle & Co	44½	188 0 3
Hadland & Co	280	342 19 6
Crown Copper Co	134	483 17 0
Total	4,945	£17,945 10 6

SAN FRANCISCO STOCK MARKET.

LATEST BY MAIL.

NAME.	FRIDAY, May 8.		Sales for week Ending May 4.	
	Open'g	*Clos'g*	*Shares.*	*Amount.*
Sierra Nevada...	$ 4½	$ 4¾	408	$ 1,946 00
Imperial.....	139⅝	140	5361	34,935 00
Gould & Curry...	800	800	3	2,400 00
Chollar—Potosi..	315	315	226	50,781 00
Yellow Jacket..	687½	710	190	130,362 00
Bullion	80	80	192	18,750 00
Crown Point....	1250	1250	3	3,700 00
Belcher.....	325	325	26	9,427 00
Overman	80	75	985	76,367 00
Ophir	520	515	397	208,966 00
Hale & Norcross	.....	.....	17	15,702 00
Exchequer	.....	.....	80	706 00
Savage	985	975	3	7,955 00
Empire Mill....	180	180	4	654 00
Alpha.....	.....	.....	.....	.....
Blue Ledge.....	.....	.....	.....	.....
Lady Bryan. ...	.....	.....	50	125 00
Daney	.....	.....	15	143 00
Caledonia Tunnel	.....	.....	.....	.....
Segrgat'd Belcher	.....	.....	.....	.....
Real del Monte..	.....	.....	.....	.....
Confidence.....	16	15	174	3,940 00

LATEST BY TELEGRAPH.

SAN FRANCISCO, May 26.

Name.	Bid per foot.	Name.	Bid per foot.
Gould & Curry	725	Crown Point	1000
Savage	850	Yellow Jacket	690
Chollar-Potasi	300	Belcher	200
Ophir	400	Alpha	325
Hale and Norcross	950	Imperial per share	125

Interesting to Copper Miners.

Mr. H. Collum, of Marquette, Michigan, has a new invention for the manipulation of thin flake and very light copper. The machine transforms, by a rapid grinding process, all the flakes and light particles of copper into solid threads and pellets, which are afterward easily separated by the usual washing process. The machine also grinds the coarser sand, and obtains much fine copper from it. An exchange states that it has been tested with gratifying success.

NEW YORK STOCK MARKET.

MINING.	May 19. BID.	ASKED.	May 21. BID.	ASKED.	May 29. BID.	ASKED.	May 30. BID.	ASKED	May 31. BID.	ASKED.	June 1. BID	ASKED.
Alt Elmore					2 85	3 05	3 00	....	3 05	3 25		
ona					.....	2 15	.....	2 15	.....	2 15		
American Flag					.....	3 00	.....	3 00	.....	3 00		
Atlantic & Pacific					3 50	5 25	3 50	5 00	4 75	4 90		
Bates & Baxter Gold					1 90	2 10	1 90	2 00	1 95	2 00		
Benton Gold					1 50	1 40	1 27	1 35	1 25	1 35		
Bobtail Gold						3 40	...	3 00	.....	3 00		
Bullion Consol. Min'g. Co						5 00		5 00	5 50			
Consolidated Gregory					12 25	12 70	12 10	12 40	11 75	11 90		
Corydon					1 40	1 55	1 25	1 50	.....	1 50		
Downieville Gold					40	45	41	42	39	43		
Eagle Gold					.....	.....	.....	.....	.....	.....		
Gold Hill					2 50	.....	2 50	.....	2 00	.....		
Gunnell Gold					92	95	90	95	87	95		
Gunnell Central					.....	5 00	.....	5 00	.....	5 00		
Helman					37	40	35	40	35	38		
Hope Gold					2 95	.....	2 80	.....	3 00	.....		
Kipp & Buell Gold					1 55	1 75	1 55	1 75	1 50	1 75		
Liberty Gold					.....	40	.....	.....	18	35		
Liebig Gold					50	90	.....	85	.....	.....		
Manhattan Gold					60	70	.....	.....	.....	.....		
Montana					.....	1 50	.....	1 50	.....	1 50		
New York					30	55	25	45	25	35		
Quartz Hill					3 85	4 10	3 80	4 10	3 90	3 95		
Rocky Mountain Gold					2 20	.....	2 55	3 00	3 30	3 50		
Silver Eagle					.....	.....	.....	.....	.....	.....		
Smith & Farmelee Gold					9 00	9 25	9 00	9 05	8 90	9 00		
Texas Gold					10	50	.....	.....	.....	50		
Virginia City					25	45	.....	.....	.....	.....		
Waddingham Gold					.....	10 00	10 00	12 00	11 00	18 00		
Caledonia Copper					.....	.....	.....	5 00	.....	5 00		
Canada Copper					.....	.....	.....	.....	.....	75		
Central Copper					35 00	.....	.....	.....	.....	.....		
Copper Falls					45 50	.....	.....	.....	.....	.....		
Sheldon & Columbian Cop					3 00	.....	.....	.....	.....	.....		
Knowlton Copper					4 00	.....	3 75	.....	3 75	.....		
Mendota Copper					.....	.....	.....	3 75	.....	.....		
Minnesota Copper					.....	14 00	.....	14 00	.....	.....		
Norwich Copper					.....	1 25	.....	.....	.....	1 50		
Ogima Copper					.....	6 00	.....	.....	.....	6 00		
Superior Wisconsin					.....	.....	.....	.....	.....	.....		
Deuho Lead					.....	2 50	.....	2 50	.....	2 50		
Phœnix Lead & Mining Co					80	91	80	90	.....	98		
Wallkill Lead					.....	.....	.....	.....	.....	.....		
Columbian Coal					.....	.....	.....	7 00	.....	.....		
Schuylkill Coal					.....	.....	.....	.....	.....	.....		
Lake Superior					.....	.....	.....	.....	.....	.....		
Copake Iron					.....	.....	.....	.....	.....	.....		
Foster Iron					.....	.....	.....	.....	.....	.....		
Annular Drill					.....	.....	.....	.....	.....	.....		
Eagle Gold					.....	.....	.....	.....	.....	.....		
Rockland					.....	.....	.....	.....	.....	.....		
Clute Lead					.....	.....	.....	.....	.....	.....		
Isle Royal					.....	.....	.....	.....	.....	.....		
British American Coal					4 75	5 00	4 00	4 25	3 50	3 75		
N. Y., Phila. & Baltimore					.....	.....	.....	.....	.....	.....		
Black Hawk					.....	.....	.....	.....	.....	.....		
La Crosse Gold					.....	.....	.....	.....	.....	.....		
Perigo Gold					.....	.....	.....	.....	.....	.....		
Union Gold					.....	.....	.....	.....	.....	.....		
Princeton Copper					.....	.....	.....	.....	.....	.....		

OIL STOCKS.												
Benuehoff Run					12 25	12 35	12 15	12 30	12 05	12 20		
Buchanan Farm					38	40	36	40	35	40		
Central					2 45	2 60	2 45	2 80	2 60	2 65		
Excelsior					33	35	33	35	35	40		
First National					6	10	8	10	7	9		
Ivanhoe					2 00	.....	.....	2 35	2 25	.....		
N. Y. & Alleghany					3 95	4 00	3 90	3 95	3 85	4 00		
Northern Light					.....	2 50	.....	3 00	.....	.....		
Oil Creek of N. Y					50	70	60	65	65	68		
Pit Hole Creek					2 75	2 90	2 50	2 90	2 75	2 90		
Rynd Farms					20	.....	20	25	21	50		
Shade River					53	60	52	64	53	58		
United States					5 50	5 70	5 40	5 65	5 10	5 20		
Palmer Petroleum					.....	.....	.....	.....	.....	.....		
Union					.....	.....	.....	.....	.....	.....		
Empire and Pit Hole					.....	.....	.....	.....	.....	.....		
Venango & Pit Hole					.....	.....	.....	.....	.....	.....		
Allen Wright					.....	.....	.....	.....	.....	.....		
Bergen Oil & Coal					.....	.....	.....	.....	.....	.....		
Benuehoff & Pit Hole					.....	.....	.....	.....	.....	.....		
Equitable					.....	.....	.....	.....	.....	.....		
Fee Simple					.....	.....	.....	.....	.....	.....		
Forest Co. Petroleum Co					.....	.....	.....	.....	.....	.....		
Germania					.....	.....	.....	.....	.....	.....		
Gt Western Consolidated					.....	.....	.....	.....	.....	.....		
Guild Farm					.....	.....	.....	.....	.....	.....		
Heydrick					.....	.....	.....	.....	.....	.....		
Heydrick Bros.					.....	.....	.....	.....	.....	.....		
High Gate					.....	.....	.....	.....	.....	.....		
Homowack					.....	.....	.....	.....	9	12		
Lilly Run					.....	.....	.....	.....	.....	.....		
Oak Shade Petroleum					.....	.....	.....	.....	.....	.....		
Penn. Oil Creek					.....	.....	.....	.....	2 90	.....		
President					.....	.....	.....	.....	.....	.....		
Southard					.....	.....	.....	.....	.....	.....		
Sherman & Barnsdale					.....	.....	.....	.....	.....	.....		
Sherman Oil					.....	.....	.....	.....	.....	.....		

FREE LIST.												
Benuehoff Run Oil					3 60	3 75	3 65	.....	3 80	.....		
Brevoort					1 50	2 00	1 25	1 50	1 25	.....		
Bliven					.....	1 00	50	1 00	50	75		
Brooklyn					55	75	60	75	.....	75		
Bradley					.....	10	.....	10	.....	10		
Cherry Run Petroleum Co					18	20	18	20	.....	25		
Clinton Oil					75	85	75	85	.....	.....		
Consolidated (New York)					.....	.....	.....	1 50	.....	1 46		
Empire City Pet'm Co.					20	40	20	31	.....	30		
Eclectic Oil					1 70	2 00	1 70	.....	.....	.....		
Enniskillen					.....	.....	.....	.....	.....	.....		
Hamilton McClintock					.....	2 00	.....	2 25	.....	2 25		
Liberty					.....	20	.....	5	4	5		
Mt. Vernon					.....	25	.....	25	.....	25		
Manhattan					16	20	.....	20	10	20		
National					.....	.....	.....	.....	50	.....		
New York & Newark					10	14	13	14	11	14		
New York, Phil. & Balt.					14	19	12	14	12	15		
Second National					25	50	.....	50	.....	50		
Oceanic					8	15	7	10	5	25		
Pepper Well					.....	7 0	.....	7 00	.....	.....		
Pit Hole No. 2					.....	.....	.....	3	.....	10		
Pit Hole Farms					.....	1 90	.....	.....	.....	2 00		
Pet. Consolidation					17	20	15	20	14	20		
Tack Petroleum Co., N.Y.					5	10	5	10	5	10		
Union					2 50	5 50	2 50	.....	.....	6 00		
United Petroleum Farms					23	.....	24	25	20	30		
West Va. Oil & Coal Co.					4	8	5	8	5	6		
Webster					20	25	20	25	.....	.....		

BOSTON STOCK MARKET.

Reported for the Journal of Mining by Lombard & Co., 99 State Street, Boston.

COAL.

Companies.	May 25. BID.	ASKED.	May 26. BID.	ASKED.	May 28. BID.	ASKED.	May 29. BID.	ASKED.	May 30. BID.	ASKED.	May 31. BID.	ASKED.
Belmont	3 12	4 25	3 12	4 25	3 12	4 25	3 12	4 25	3 12	4 25	3 12	4 25
Eagle Hill Mutual	1 50	1 60	1 50	1 60	1 50	1 60	1 50	1 60	1 60	1 60	1 50	1 60
Bear Valley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Continental	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Franklin	10 90	12 50	11 50	13 00	11 50	13 00	11 50	13 00	11 50	12 00	11 00	12 00
Gilberton	26 25	30 25	30 25	40 25	30 25	40 25	36 25	40 25	36 25	40 25	36 25	40 25
Glenville	.....	5 00	.....	5 00	.....	5 00	.....	5 00	.....	5 00	.....	5 00
Harleigh	49 50	60 00	49 50	60 00	49 50	60 00	49 50	60 00	49 50	60 00	49 50	55 00
Lackawana	.....	7 50	.....	7 50	.....	7 50	.....	7 50	.....	7 50	.....	7 50
Larberry	17 50	20 00	17 50	20 00	17 50	20 00	17 50	20 00	17 50	20 00	17 50	20 00
Locust Dale	.....	12 00	.....	12 00	.....	12 00	.....	12 00	.....	12 00	.....	12 00
Mammoth Vein	21 00	26 75	24 00	26 75	24 00	26 75	25 00	27 00	25 00	27 00	28 00	32 00
Mount Pleasant	25 45	35 75	26 45	34 75	26 45	34 75	26 45	34 75	26 45	34 75	26 45	34 75
New England	27 60	30 00	28 00	30 50	28 00	30 50	27 50	30 50	25 29	50 30	29 00	30 00
Short Mountain	12 50	15 00	13 50	15 00	13 00	13 50	15 00	13 00	14 50	15 00	14 00	15 00
Summit Branch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

MINING.

Albany and Boston	....	....	....	15	11	....	11½	....	11	15	11	....
Bay State	13½	15¾	13¾	13⅞	14⅛	15	15⅝	15½	15½	15½	15⅝	15¾
Boston	1	1½	1	1¼	1	1⅛	1⅛	1½	1⅛	1½	1⅛	1⅛
Central	25	40	25	40	....	40	30	40	30	40	....	40
Concord	4	4¼	4	4¼	4¼	4½	4¼	4⅝	4	4½	4¼	4⅜
Copper Falls	42¾	45	43½	44	....	45⅜	45	46	45	45½	44	45
Franklin	....	45	....	45	....	45½	44	44¾	44	44½	45½	44
Hancock	19⅝	19¾	....	20¼	20¼	....	20½	21	20½	20⅝	20¼	20¾
Humboldt	6¼	6⅝	6¼	6½	6¾	....	6	6½	6	6⅛	6	....
Huron	34	38	34¼	38	34	38	....	40	38	40	....	....
Isle Royal	....	14	....	14	....	13	....	13	....	13½	....	13
Mesnard	1½	1¾	1½	2	1⅝	2	1½	2	2	2¼	2⅛	2¼
Minesota.....asst. pd.	11½	12¾	11½	12½	11½	12	11½	12½	11¾	12¼	11½	12
National	17	....	17	19	....	....	....	17	....	....	....	....
Petherick	6⅛	6½	6¾	7	....	7¼	7⅛	7½	....	7	6	6½
Pewabic	....	38	....	36	36½	37	36	38	36	....	36	36¾
Phœnix	11	12½	10	11	10	11	....	11	10	....	10	11
Pittsburg	....	51	....	50	....	....	....	....	....	....	....	....
Pontiac	1	1⅛	1	....	1⅛	1½	1⅛	1½	1⅛	1⅛	1⅛	2
Quincy	45	47	45	47	47	50	45¼	50	48	50	46	....
Rockland	4½	4⅝	4¾	5	4¾	5	5	5	5	....	....	....
South Side	2⅛	2¾	....	2½	2¼	2⅞	2½	2¾	2½	3	....	....
Star.....asst. pd.	1½	....	2¼	....	3	3½	2⅝	3¼	2½	....	....	....
Superior	3¼	3½	3⅜	3⅝	3⅞	4	3¾	4	3¾	3⅞	3½	3⅝
Tolloe	....	¾	....	¾	¾	1	1⅛	1¼	1¼	2	2	2¼
Windrop	1½	2	....	2	2¼	2½	2½	2¾	2½	....	....	....
Consolidated Gregory Gold	11 00	12 00	12 10	12 25	13 25	13 75	12 25	12 50	12 10	12 15	11 30	12 10
Quartz Hill Gold	3 50	3 75	3 75	3 80	3 75	4 25	3 75	4 20	3 80	3 90	3 90	4 15
Smith & Farmelee Gold	9 15	9 75	9 00	9 15	9 35	9 45	9 00	9 35	9 00	9 10	8 90	9 00

PETROLEUM

Beebe Farm	4 00	5 00	4 00	6 00	4 00	6 00	4 00	6 00	4 00	6 00	3 12	4 25
Boston and Kentucky	20	30	16	25	16	25	16	25	16	25	1 30	1 60
Boston Oil Creek Land Co.	.....	40	.....	30	.....	30	.....	30	.....	30	.....	30
Boston Petroleum Oil Co.	75	2 00	75	2 00	75	2 00	75	2 00	75	2 00	75	2 00
Botolph Oil Well Co.	.....	80	.....	80	.....	80	.....	80	.....	80	.....	80
Crescent Petroleum Co.	70	1 60	70	1 00	70	1 00	70	1 00	70	1 00	70	1 00
Everett Oil Co.	6	10	6	10	6	10	6	10	6	10	6	10
" (Pref. Stock)	40	60	35	60	35	60	35	60	35	60	35	60
Farrar	.....	5 00	.....	5 00	.....	5 00	.....	5 00	.....	5 00	.....	5 00
Fuller Farm	18	20	18	25	20	22	20	22	.....	25	15	20
Great Basin	2	6	3	6	3	6	3	6	.....	6	.....	6
Indian Spring	10	15	10	15	10	15	10	19	10	19	10	18
Mass. and Oil Creek	17	22	12	20	12	20	15	22	15	22	16	22
New England	5	10	5	10	5	10	8	12	8	12	8	12
New York and Boston	56	1 00	56	1 00	56	1 00	56	1 00	56	1 00	56	1 00
Pepper Petroleum	4 60	5 00	4 20	4 75	.....	.....	.....	.....	.....	4 50	.....	4 50
Pittsburgh and Boston	2	5	2	5	2	5	2	5	2	5	2	5
Tremont	.....	3 50	.....	3 50	.....	3 50	.....	3 50	.....	3 50	2 00	3 50
Suffolk and Oil Creek	11	16	11	16	11	16	11	25	10	20	11	16
Windrop	3	8	3	8	3	8	3	8	3	8	3	8
Independ. of U.S. & C.W.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

New York Companies.

Benuehoff Run	12 75	13 00	12 50	12 55	12 40	12 55	12 25	12 50	12 15	12 25	12 05	12 15
Bergen Oil and Coal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bradley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buchanan Farm	38	39	38	39	39	40	39	40	38	40	36	40
Central	2 25	2 40	2 45	2 50	2 50	2 50	2 45	2 55	2 45	2 55	2 60	2 75
Cherry Run	10	20	20	22	20	25	19	20	18	20	18	20
Consolidated	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Empire City	20	35	20	40	20	38	20	35	20	40	20	31
Empire and Pit Hole	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Excelsior	60	65	50	60	50	45	33	40	30	40	35	40
Northern Light	.....	2 50	.....	2 50	.....	2 50	.....	2 00	.....	2 50	.....	3 00
Oceanic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oil Creek	65	68	65	69	65	75	65	68	60	68	66	70
Palmer Petroleum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
President	.....	40	.....	40	.....	40	.....	35	.....	35	.....	35
Pit Hole Creek	2 50	2 40	2 90	3 00	3 10	3 15	2 85	3 00	2 80	2 90	2 75	2 90
Rynd Farm	20	25	20	25	21	30	20	30	20	30	20	23
Union	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
United States	5 10	5 40	5 20	5 50	6 25	6 35	5 50	5 70	5 40	5 50	5 15	5 25
Webster	20	25	20	25	20	29	20	28	20	25	20	28
Shade River	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

PRICES OF ASSAYING IMPLEMENTS.*

[CORRECTED WEEKLY.]

Smelting Furnaces	$25 00@	40 00
Cupelling "	35 00@	40 00
Scales	10 00@	30 00
Assay Balances and Weights	100 00@	200 00
Plumbago Crucibles	25/@	1 50
Paris "	15/@	1 25
Porcelain Evaporating Dishes	25/@	5 00
Fire Tongs	75/@	3 50
Hammers	1 00@	2 50
Funnels	15/@	1 00
Litmus Paper, quire	1 00@	1 25
Ingot Moulds	1 25/@	3 00
Flasks, Bohemian Glass	15/@	1 00
Sand Baths, Iron	25/@	1 00
Pipers	50/@	2 00
Mortar and Pestle, Iron, Agath, etc	50/@	20 00
Lamps, Gas and Alcohol	75/@	5 00
Blowpipes	50/@	2 00
Hydro-Oxygen Blowpipes	25 00@	125 00
Pincers, or Cutting Pipers	75/@	1 50
Glass Tubes, German, etc., per lb	75/@	1 50
Muffler	50/@	1 50
Anvils	1 00@	2 00
Cupel Moulds	3 50@	5 00
Capels, per doz	50@	3 50
Bone Ash, per lb	25/@	50
Test Lead, "	50@	75

* These articles can be procured at the stated rates, by sending order, with remittance, to

WESTERN & COMPANY, 37 Park Row.

CHEMICALLY PURE PREPARATIONS USED IN THE VOLUMETRIC ASSAY.

Acid, Acetic	$0 75	lb
" Arsénious	0 05	oz
" Hydrocholoric	0 50	oz
" Nitric	0 60	lb
" Oxalic	0 20	oz
" Sulphuric	0 75	lb
Ammonia	0 60	lb
Baryta, Carbonate	0 20	oz
" Hydrate	0 40	oz
" Nitrate	0 12	oz
Barium, Chloride	0 12	oz
Copper, Sulphate	0 10	oz
Iodine	0 75	oz
Iron, Sesquichloride, Cryst	0 25	oz
Lead, Nitrate	0 10	oz
Mercury, Peroxide	0 20	oz
" Protonitrate	0 25	oz
" Chloride	0 20	oz
Potassa, Carbonate	0 25	oz
" Bichromate	0 15	oz
" Bichromate, Fused	0 20	oz
" Chromate	0 15	oz
" Hydrate	0 40	oz
" Ferrocyanide	0 25	ðz
" Permanganate	0 18	oz
" Sulphate	0 10	oz
Silver, Nitrate	Gold 1 10	oz
Soda, Acetate	0 10	oz
" Carbonate	0 10	oz
" Hydrate	0 20	oz
" Phosphate	0 10	oz
Sodium, Chloride	0 10	oz

FEDERAL SECURITIES.

LOANS. INTEREST PAYABLE IN GOLD.	AUTHORIZING ACTS.	AMOUNT OUTSTANDING.	RATE.	WHEN PAYABLE.	INTEREST.	WHEN PAYABLE.	OFF. PER CENT.	ASKED PER CENT
Registered Bonds	28 January, 1847	$9,415,250	6	1867	$564,915	Jan. July.	125¼	.....
Coupon "								
Registered Bonds	31 March, 1848	8,908,342	6	1868	534,500	Jan. July.		
Coupon "								
Registered Bonds	22 June, 1860	7,022,000	5	1871	351,100	Jan. July		
Coupon "								
Registered Bonds	14 June, 1858	20,000,000	5	1874	1,000,000	Jan. July.		
Coupon "								
Bonds, March 3, 1863			6	1881				
Oregon War Debt			6	1884		Jan. July.		
Registered Bonds	8 Feb. & 17 July & Aug., 1861	285,715,650	6	1881		Jan. July.		109½
Coupon "								
Registered "	25 February, 1862 (5-20's)	514,780,500	6	1882	30,886,830	May Nov.	102⅛	102¼
Coupon "								
Registered "	(5-20's) new issue	100,000,000	6	1884	6,000,000	May Nov.	102⅝	102⅞
Coupon "								
Bonds, March 3, 1865	(5-20s)	65,175,500		1885				
Registered "	(10 40's)	171,219,100	5	1904		Mar. Sept.	95⅞	
Coupon "								
Total April 1		1,180,236,342						

LOANS. INTEREST PAYABLE IN LAWFUL MONEY.	RATE.	AMOUNT OUTSTANDING.	PRINCIPAL PAYABLE.	INTEREST.	WHEN PAYABLE.	OFF.	ASKED.
AUTHORIZING ACTS.							
Bonds, Cent'l P. R. R. Co., July 2, 1864	6	$2,362,000 00	1895	$1,898,000 00	Jan. July		
Bonds, Union P. R. R. Co., July 2, 1864	6	1,632,000 00	1895				
Temporary Loan	4		10 days' notice				
Temporary Loan	5		10 days' notice				
Temporary Loan	3	18,576,939 00	10 days' notice				
Certificates of Indebtedness, March 1, 1862	6	62,248,000 00	1 yr from date		1 yr. fr. date		
1 and 2 Years' Notes, March 3, 1863	5	8,536,900 00			1 yr. fr. date		
3 Years' Compound Interest Notes { March 3, 1863 / June 20, 1864 }	6	172,012,141 09	3 yrs from date		At maturity		
3 Years' Treasury Notes { June 30, 1864 / March 3, 1865 }	7.3		3 yrs from date	21,900,000 00	Aug. Feb.	102½	
3 Years' Treasury Notes, March 3, 1865	7.3	817,014,000 00	3 yrs from date	21,900,000 00	June Dec.	102⅛	
3 Years' Treasury Notes, March 3, 1865	7.3		3 yrs from date	16,790,000 00	July Jan.	102¾	
Aggregate of Debt Bearing Lawful Money Interest, April 1		1,064,455,041 00	Total Interest				

Patent Claims.

Interesting to Miners, Millmen, Metallurgists, Oil-Men and Others.

The following claims have recently been issued from the United States Patent Office :

54,836.—DRILLING MACHINE FOR WELLS.—M. E. Abbott, Summit Hill, Pa. :

I claim, 1st, the arrangement of devices herein described for imparting to the drill-rod a movement in a vertical plane, the same consisting in securing it within the frame or cross-bar, o, moving in suitable vertical guide-rods or bars, p, p, and connected with the engine beam, g, in any proper manner, substantially as set forth.

2d, Revolving the drill through the vertical movement of the same by means of the sliding plate, x, moving in and between parallel inclined guides, b', b', and provided with a spring pawl, a', engaging with the ratchet-wheel, s, of the frame, v, arranged and operating substantially in the manner described.

3d, The combination of the jaws, q', q', and bent arms, s', s', arranged and operating with the rod, v, in the manner and for the purpose herein specified.

4th, The combination of the jaws, t', t', and lever frame, v', arranged and operating with the rod, u, in the manner and for the purpose herein specified.

5th, In the described combination with the drill-rod, v, and the beam, g, for operating the same, I claim the crank-arms, d', h', m', rods, l', n', and adjustable tappets, g', g', arranged and employed substantially as set forth, to regulate the stroke of the drill.

54,859.—APPARATUS FOR INDUCING THE FLOW OF OIL FROM WELLS.—John B. Christian, Mount Carroll, Illinois. :

I claim, 1st, The combination of the flanged pipe, A, with the slotted double hollow cylinder, B, and the hollow cylinder, Y, as arranged in relation to each other, substantially as and for the purpose specified.

2d, Lowering the pipe, A, or its equivalent, and securing it firmly in its place in the well, by means of the tube, D, with its circular base, E, in combination with the rod, H, substantially as set forth.

54,884.—ORE-CRUSHER.—Joseph Fowler, Rahway, N. J. :

I claim, 1st, The crank-shaft, o, and the connecting-rods, h, h, and l, in combination with the jaws, g and k, when the parts are arranged and operating as and for the purposes specified.

2d, In combination with the jaws, g and k, I claim the adjustable side pieces, n, n, and screws, o, o, for the purposes and as set forth.

54,917.—COLLECTING THE LIGHT OILS FROM OIL-WELLS.—John Johnson, Saco, Maine. Ante-dated May 10, 1866. :

I claim, 1st, The separating and gathering at the wells a new article of commerce, viz. : The light condensable vapors which rise with petroleum, and which may be pumped on under any suitable seal and condensed, substantially as herein set forth.

2d, Volatilizing and condensing the conden-able products from petroleum at the wells, by forcing air or gases through petroleum as carries off the light products, for the purpose herein set forth substantially as specified.

54,962.—TOOL FOR REMOVING SCALE IN BOILER TUBES.—Philip C. Rowe, Boston, Mass. :

I claim, 1st, In combination with a cutter-head, the tubular screw, d, and its internal screw, i, arranged to operate substantially as described.

2d, In combination with the piece, c, I claim supporting the nut for the screw, d, the turn-buckle clamping device, substantially as set forth.

3d, The construction and arrangement of the parts described, by which the cutters of the head are adjusted, substantially as specified.

54,978.—TREATING OILS.—H. K. Taylor and D. M. Graham, Cleveland, Ohio :

We claim, 1st, The treatment of petroleum and other similar hydrocarbons by means of nascent, hydrochloric acids, chlorine, fluorine, or other equivalent chemical re-agent, so as to change the constitution of the oil and purify it, substantially as herein described.

2d, The use of sulphuric acid, nitric acid, or salts containing these, or either of them, when used in combination with other materials, such as herein described, or their equivalents, for the purpose of treating petroleum or other hydrocarbons, as described.

54,982.—ROCK DRILL.—Owen G. Warren, New York City :

I claim leading the shaft with the collar weight to render unnecessary a high lift and for rapid boring.

54,984.—PROCESS OF REFINING HYDROCARBON OILS.—Philipp Weisenberger, Pittsburg, Pa. :

I claim the above described process of purifying distilled petroleum or other liquid hydrocarbons, without the aid of any alkalies, by means and with the use of water at 212° Fahr., or approximate degrees of temperature, in the manner specified.

55,008.—ROCK-DRILLING MACHINE—Walter Hyde, assignor to Mrs. Deborah A. Ballou, New York City :

I claim, 1st, the eccentric gear, J, K, in combination with the platform, A, handle, D, and hammer, E, constructed and operating substantially as and for the purpose specified.

2d, The slot, E, in the bracket, F, in combination with the eccentric gear, J, K, and hammer, E, constructed and operating substantially as and for the purpose set forth.

3d, The curved rod, G, and double cranks, H, in combination with the eccentric gear, J, K, and hammer, E, constructed and operating substantially as and for the purpose described.

Mineral and other On-dits.

☞ A correspondent writes that while on a recent visit to Clunes, Australia, he took samples of the refuse sulphurets of gold washings belonging to three companies, and obtained from them gold at the rate of 28 oz. 5 dwt.; 29 oz. 9 dwt,; and 30 oz. per ton.

☞ During the past month the cabinet of the Scientific Association at San Francisco has been enriched by two fine specimens of emery, one obtained in Sierra county, the other from an unnamed locality, supposed to be in Siskiyou county, California.

☞ A mountain of salt has been discovered about thirty-five miles west of the Austin Reese River. A shaft sunk in the eminence tapped a fine body of saline water, clear as a crystal, which yielded 60 per cent of pure salt.

☞ Iron has been discovered four feet from the surface of the ground on the farm of L. F. Collins, Esq., adjoining Snow Hill, Md. It is thought to be in great abundance and of excellent quality.

☞ The first gold digging of Montana was begun in Bannock in 1862, and in 1863 Alder Gulch, probably the richest gulch in the world of its size, was discovered.

☞ An Oregon paper represents the annual product of the mines along the Columbia and its tributaries, to be about $6,450,000.

☞ A new mineral has been discovered in Chili, containing 10 per cent. of iodine. A cargo of it will represent a fortune.

☞ An extensive gold field has been discovered fifty miles west of Cleveland Bay, Queensland, Australia.

☞ Nevada is chiefly celebrated for her silver mines, which are the most productive in the world.

☞ The stated yield of the Western Territories during the past year was $75,000,000.

☞ It is stated that Montana's yield of gold for 1865, was about $17,500,000.

Special Scientific Brevities.

☞ M. Torreggiani has proved that a pile, in which the positive pole was represented by metallic lead, and the negative by carbon, and which contained a saline solution (an alkeline acetate), gave a large quantity of pure carbonate of lead, besides electricity, which might be profitably employed. M. Torreggiani considers that is an easy and innoxious way of making white lead.

☞ A boiler heated by petroleum, lately set up at Woolwich Dockyard, England, vaporized 3,000 pounds of water in three hours, at the rate of 1 pound fuel to 13½ pounds water. The lowest class of English oil was used, and gave a flame more voluminous than intense.

☞ An alloy, consisting of 10 parts of cast iron, 10 of copper, and 80 of zinc, does not adhere to the mold in casting, and it is of a beautiful lustre when filed and polished. The most fractious metals are melted first, and the zinc last, in making it.

☞ It appears that powder, rendered non-explosive by mixing with sand or glass, as in Gale's process, loses this protection by continued slight jostling, as this causes the powder to separate from the sand, by the sand settling down.

☞ The French telegraph operators are making experiments with a new kind of electric cable, covered with esparto-grass, which grows plentifully on the coast of Algeria.

☞ The pearl is a malady of the oyster, a sort of excrescence or wart, and requires seven years to develope itself completely.

☞ It is stated that nitro-glycerine freezes at a temperature of about 42° Fahrenheit.

☞ Some physicians use nytro-glycerine as a cure for headache.

All Sorts.

☞ The Denver (Col.) *News* says that Raphael Grandjean, who has a large plantation on the Rio Grande, New Mexico, brought a train to that city, consisting, in part, of six full grown camels, which were well loaded with wool. They will be loaded with stores for a return trip. These camels have made six trips across the continent from Fort Stanton to San Diego, California.

☞ Herr Egestorff, of Hanover, one of the largest engine manufacturers in Germany, has withdrawn his proposal to send specimens of his engines to the Paris Exhibition, on the ground that the Emperor has appointed a child to be President of the Exhibition.

☞ There is certainly on the face of the globe no people or no government whose territory includes so great variety of the earth's productions, and which is able to gratify so many of the manifold wishes of man, as the United States.

☞ There are at least five hundred applicants for appointments as United States Commissioners to the Paris Exhibition of 1867, many of them interested in machines and implements. Most of them know nothing of the French language.

☞ A Chinese newspaper is about to be issued in London, under the title of the *Flying Dragon*. Professor Summers, of King's College, is its projector.

☞ The railroad running from St. Louis to Springfield, was sold on the 13th inst., to John C. Fremont, for $1,500,000.

☞ A great financial reformer is so devoted to figures, that when he has nothing else to do he casts up his eyes.

☞ Cadmus is said to be the first who discovered gold.

☞ Fortune assists the brave and patient.

Curiosities at the French Exhibition.

We are promised most marvelous things for the Exhibition of 1867. Among others, a photographic machine that takes likenesses in all colors but green, a color which still remains obstinate to the inventor's researches. The Pasha of Egypt has appropriated a sum equivalent to $40,000 for the mere fitting up of that portion of the building destined to receive the wonders he intends to send. Turkey will favor us with the minaret of her mosque, a mausoleum, and a model of a Turkish house, with its divans, baths, etc. Persia has already informed the committee of her intention to construct, on the Champs de Mars, a certain number of original buildings, such as kiosques, silk-worm nurseries, opium manufactories, etc.; this country will also build a pavilion, with a model of the Shah's throne, and also copies of pictures, rich carpets, furniture, etc., which adorn the imperial residence, and the fountains that surround it. The King of Siam, the Emperor of Morocco, and the Tycoon of Japan have already announced that every preparation is being made that these countries may be well represented in the approaching Exhibition.—*L'Invention.*

Carbonate of Soda.

Carbonate of soda is found in the soda lakes of Egypt, situated in a barren valley near the Delta, in Hungary, and very abundantly in Mexico, where it is employed as a flux in smelting the ores of silver, especially the chloride of silver, which is a common ore in that country. But nowhere, probably, does it occur in such vast quantities as in the State of Nevada. Recent Nevada exchanges state that fresh discoveries of this substance have been made near sand springs, ninety-five miles west of Austin. It occurs in white, and sometimes yellowish or grayish efflorescent incrustation. Large beds have also been discovered in Smoky Valley. This is employed largely in the assaying establishments. It is also extensively used in the manufacture of the metal sodium, which seems destined to be largely used as a gold amalgam.

Water, in passing from the solid to the liquid state converts 140 degrees of sensible heat into latent; in passing from the liquid to aeriform condition, it absorbs 1,000 degrees of heat, rendering it latent. Alcohol, in evaporating, absorbs 374 degrees of heat; ether, 163 degrees; and spirit of turpentine, 138 degrees.

A good deal of excitement has been occasioned at Charleston, Illinois, by the discovery of petroleum on the surface of the ponds, and by the oozing up of oil from newly dug cellars, cisterns and other places.

WHAT IS SAID OF THE "JOURNAL OF MINING" BY THE PRESS.

From the Reese River Reveille, Austin, Nevada, May 31.

NEW PAPER.—We have received the first number of the AMERICAN JOURNAL OF MINING, a weekly paper published in New York. It gives evidence of editorial ability, and furnishes much interesting and useful matter.

From the Mining and Scientific Press, San Francisco, Cal., May 5th, 1866.

THE "AMERICAN JOURNAL OF MINING."—This is the title of a new weekly journal of sixteen pages, published in New York, the first two copies of which we have just received. Its salutatory address is brief and modest, making no special promises, except that politics, being entirely "incompatible with the spirit and scope of such a paper," will be utterly ignored. The typographical execution of the paper is remarkably neat, and its mining summary very complete. The subject of petroleum very properly receives a large share of its attention; and oil companies, as well as gold and silver mining companies, are tabulated in a very convenient form.

From the Galena, (Ill.) Gazette, May 22nd, 1866.

AMERICAN JOURNAL OF MINING.—A new paper bearing the above title, and devoted to the interests of mining, has recently been started in New York. It aims to supply a want which has been seriously felt, for a reliable medium of information upon general mining matters, and has thus far succeeded admirably in fulfilling all its promises. It publishes the latest reports of the London and New York metal markets, and quotes mining stocks. Well executed cuts of new and improved mining machines appear in every issue. It will not neglect the lead mines of Illinois and Wisconsin. Situated as we are in a mining region, we should dislike to be without it. Our miners will find it a valuable medium of information.

From the Miners' Register, Central City, Colorado, May 8.

THE AMERICAN JOURNAL OF MINING.—The second issue of this new weekly publication is before us, and presents a most elegant exterior, typographically speaking. The people of Colorado and other mining countries of the far West, have long felt the necessity for a thoroughly reliable medium of information upon mining matters, and though repeated efforts have been made in New York and elsewhere, but one or two have attained that pre-eminence in points of accuracy and extended knowledge of those countries which they have assumed to represent. The new *Journal of Mining*, under editorial control of George F. Dawson, formerly chief editor of the *Mining Index*, starts out in splendid style. It contains a vast amount of reading matter in which is embraced all the scientific data that can be reached through the medium of mining exchanges. It also publishes reports of scientific experts relative to noteworthy mines and works; and beautifully illustrated descriptions of new processes and recent inventions in mine and mill machinery. Each number comprises sixteen pages of interesting and valuable reading matter. The engravings are executed in a superior manner. We commend THE AMERICAN JOURNAL OF MINING to our readers, and as many have expressed a desire to obtain a first class mining newspaper published in New York, we take great pleasure in bringing this to their notice.

From the Philadelphia Commercial List.

THE AMERICAN JOURNAL OF MINING is the title of a new sixteen page journal devoted to milling, mining, mineralogy, metallurgy, etc. This new aspirant for the favor of the mining public presents a neat typographical appearance, the selections are interesting and well made, and the mining summary carefully compiled.

From the American Artisan, May 23.

We have received the first seven numbers of the first volume of the AMERICAN JOURNAL OF MINING, a weekly periodical edited by G. F. Dawson, published by Western & Co., 37 Park Row, New York, and filled with very interesting matter—original and selected—relative to mining, oil-boring, and the allied arts. Subscription $4 a year in advance.

From the Journal of Applied Chemistry, May 1866.

AMERICAN JOURNAL OF MINING.—Published by Western & Co. Edited by Geo. F. Dawson, 37 Park Row, N. Y. Weekly—$4 per annum. We have received the first five numbers of this publication. Such a paper, edited as ably as the specimens we have, is needed by those interested in mining. Its leading articles are excellent. We wish it the success it deserves.

From the Rocky Mountain News (Colorado), April 12, 1866.

JOURNAL OF MINING.—We are in the receipt of first number of a very fine-looking weekly paper bearing the above title. It is an octavo, of the same size as the *Scientific American*, and we have no doubt *will prove a great favorite with our miners*, unless it becomes afflicted, like many other journals of the same class in the East, with petroleum on the brain. The first number promises well, however, and contains many articles of interest to miners. Published by Western & Co., 37 Park Row, New York. Single copy, $4 per annum.

From the Herald of Life, April 18th, 1866.

The AMERICAN JOURNAL OF MINING, etc., No. 2, is received. It is a quarto of 16 pages, devoted to "Milling, Oil-boring, Geology, Mineralogy, Metallurgy, etc.," and must be a valuable periodical to those interested in matters pertaining to its object. Published every Saturday at 37 Park Row, New York. Terms $4 per annum; $2.25 for six months; $1.25 for three months; single copies 10 cents.

From the N. Y. Evening Post, April 4, 1866.

Messrs. Western & Co., 37 Park Row, have begun the publication of the AMERICAN JOURNAL OF MINING. It is a handsomely printed newspaper of sixteen pages, and the first number is filled with valuable articles. Mr. George F. Dawson, the editor, is an experienced journalist, and a man of great industry and activity in the origination and diffusion of knowledge. We believe there is room for a Mining Journal of a higher scope than we have had, and the present sheet looks as though it would meet the public want.

A casual remark in an article on drilling by compressed air shows that our countrymen do not always succeed in keeping themselves first among the foremost, even in the introduction of mechanical improvements:

"By the introduction of compressed air these outlays can be almost entirely avoided, now that we have a power at hand available as steam for doing our mining work, at points where steam cannot be used. We must seek out and set to work the best machinery for drilling the rock and cutting the coal. More than three years of steady work at the Mount Cenis tunnel, and almost as long in English mines, demonstrates the fact that there are machines to be had which will do good work, and have them we must; if our own countrymen cannot furnish them we must import them or be behind the age. Is it not remarkable that in the department of mining and drilling rocks, few, if any, improvements have been made, while in almost all other branches of industry the advance has been marked and regular?"

From the N. Y. Express April 3, 1866.

STATE OF MINING.

The AMERICAN JOURNAL OF MINING, a new paper just published, and a *very capable one*, we should think, *to the mining interests of the country*, says, though the season is dull:

"The gold and silver mines of Nevada, Montana, Idaho, Colorado, Arizona, Oregon, New Mexico, never yielded larger returns, those of California manifested decided symptoms of improvement. The copper product of the great copper region bordering Lake Superior exhibits no decrease; and the coal, iron and lead mines of Pennsylvania, Wisconsin, Illinois, and other States, certainly hold their own. Most encouraging accounts as to the mineral wealth of Virginia, Georgia, and others of our Southern States also continue to come in.

"The petroleum product, in spite of the heavy tax imposed upon 'crude,' is growing, and when Congress shall have lifted the galling burden from the producers' shoulders, it must become a highly remunerative branch of mineral industry. The excitement relative to Montana and Idaho does not seem to have been materially affected by the glowing accounts from New Granada; and the more recent reports from the Big Bend mines, in British Columbia, although bearing the imprint of truth, serve but to increase the bent of many adventurous minds to swell the populations of those two favored Territories, as by travelling via San Francisco and Portland, to either Montana or Idaho, they might visit Big Bend without diverging much from their line of travel."

Of the speculative feeling so common and involving heavy losses, it is said, and *most truly*, we think, that:

"Mining can never, as a rule, be profitably conducted, unless as a legitimate business. But as a business it can, without a doubt, be carried on most remuneratively."

From the Messager Franco-Americain, April 4, 1865.

[TRANSLATION.]

We have received the first numbers of a scientific journal which has just been established in New York, called the AMERICAN JOURNAL OF MINING. The new publication concerns itself with the mines of every kind which enrich the soil of America, from the gold mines of California and of Colorado to the mines of petroleum and coal of Pennsylvania. The discription of the different methods of mining, and of the machinery invented by modern genius, are accompanied by wood cuts drawn with care.

The text is clear and legible to every one. In fine, as far as may be judged by a first and necessarily very rapid examination, the JOURNAL OF MINING is destined to be of great utility, not only to engineers but to persons of all conditions who, having an interest in mining, wish to get a *complete view* of the chances of gain or loss offered by the different speculations.

From the Mining Journal, Pottsville, Pa.

AMERICAN JOURNAL OF MINING.—This is the title of a neat and interesting sixteen page weekly paper, edited by George Francis Dawson, Esq., and published at 37 Park Row, New York, by Western & Co. It is devoted to general mining matters, and will, we judge from the contents of the first number, pay much attention to gold and silver mining in the West, now attracting investment and immigration. It is a paper that bears upon it every indication of capacity to command success, which we heartily hope it will secure. The subscription price is four dollars a year.

From the N. Y. Atlas, April 14, 1865.

AMERICAN JOURNAL OF MINING.—We have received the first two numbers of a new weekly bearing this title, which promises to supply a much felt want. The rapid development of the mineral resources of this country that has recently taken place, and the great pecuniary interests thus called into existence, have created a necessity for a reliable journal of the kind, to disseminate mining news, and serve as a medium of communication for all concerned in the mining business. This publication is under the editorial charge of George Francis Dawson, and is issued in an exceptionable style, typographically.

From the Chicago Evening Journal, April 7, 1866.

A NEW MINING JOURNAL.—We have received from the publishers, Messrs. Western & Co., 37 Park Row, New York city, the initial number of the *American Journal of Mining*. It is a handsomely printed weekly of sixteen pages, and is filled with valuable articles. Mr. George F. Dawson, the editor, is an experienced journalist, and a man of great industry and activity in the organization and diffusion of knowledge. We believe there is room for a mining journal of a higher scope than we have had, and the present sheet looks as though it would meet the public want. The subsbription price is $4 per annum.

From the Scientific American.

AMERICAN JOURNAL OF MINING.—This is a neat, well printed journal, lately started, and devoted, as its title indicates, to mining and kindred matters. It is illustrated and contains full reports of the condition and prospects of the mines in Colorado, California, and other territories. It is published by Western & Co., 37 Park Row, at $4 a year.

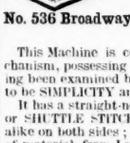
From the Reno Times, April 5, 1865.

JOURNAL OF MINING.—The first number of a weekly journal to be devoted to mining interests, has been issued by Western & Co., New York, under the able editorial charge of George Francis Dawson. It contains sixteen pages, published in handsome style, and we hope will meet with abundant success.

From the New Yorker Handels-Zeitung.

[TRANSLATED.]

The first number of the *American Journal of Mining*, edited by Mr. George F. Dawson, is before us and we welcome it. We think the *Journal* has made its appearance just in the right time.



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We shall give particular attention to the purchase and sale of GOVERNMENT SECURITIES, and to orders for purchase and sale of STOCKS, BONDS and GOLD.

JAY COOKE & Co.

New York, March 1, 1866.

IMPORTANT TO MINING COMPANIES intending to erect Machinery in California, Nevada, Idaho, Montano, Arizona, Mexico, or any part of Pacific coast.

The fact being indisputable that many of the failures in mining operations are caused by not having machinery adapted to working the ore, it is of the first importance to start right on this point.

MR. CYRUS PALMER, one of the proprietors of the Miner's Foundry, San Francisco, has lately arrived, and will remain in New York and vicinity for some months, and is prepared to take contracts to furnish all kinds of mining machinery of the most approved style at short notice, delivered in San Francisco, or at any of the mines on the Pacific coast. He will also, if required, contract to build mills at the mines, and put them in complete running order.

Mr. Palmer has just left the Pacific coast, and is therefore, acquainted with the most approved machinery in use for reducing ore and saving the precious metals. Mr. P. has not only been actively engaged for the last ten years in manufacturing mining machinery, but has had large experience in working mines and reducing ores. On application to his address, 25 Nassau street, by letter or otherwise, he will be pleased to give any information required in regard to mining or other machinery, gratis, to any company, whether they wish to contract or not.

Mr. Palmer refers to the following companies for whom the Miners' Foundry have built mills the past year:

Knickerbocker and Nevada, 70 Ceder street; Lincoln Company, 80 Broadway; Cosmos Company, 158 Broadway; Connecticut and Nevada Company, 47 Liberty street; Cobden Company, 17 Broad street; New York Company, 80 Broadway; Tarshish Company, 80 Broadway; Washington, 80 Broadway; Mettacom Company, 144 Chambers street; Consolidated Company, 157 Broadway.

Mr. Palmer can be found at the office of R. H. Vance, Esq., 25 Nassau street, corner Cedar, from 11 to 12 o'clock, daily.

PROSPECTUS.

THE NECESSITY FOR A THOROUGHLY RELIABLE medium of information upon MINING MATTERS has been seriously felt by those interested in the mines and mills of the United States. THE AMERICAN JOURNAL OF MINING supplies that want.

It is under the editorial control of GEORGE FRANCIS DAWSON, whose reputation is too well established to require, on our part, any comment.

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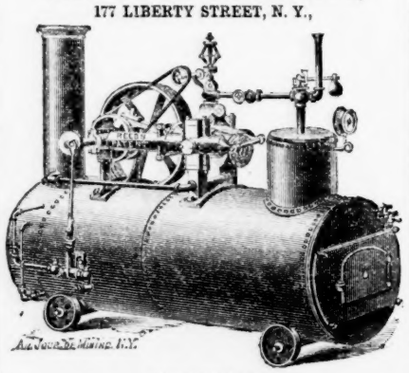

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THE "SHAW" COPPER MINE.

Public attention has several times, of late, been directed to the great mineral resources of Canada East and the riches of the copper fields have been given prominence to by Sir William Logan, in his "GEOLOGY OF CANADA;" and Mr. Herbert Williams, the Superintendent of the

HARVEY HILL MINE,

has done much, practically and by writing, to enable us to form a correct estimate of the immense value of that great mine. In the same *synclinal* there are the copper deposits of Sutton, Shefford, Stukely, Melbourne, Skipton, Chester, Halifax, Leeds, Inverness and St. Mary; and Lot on No. 9, in the 6th Range of the Township of Chester, is

THE SHAW MINE,

which at present may be viewed only as second to HARVEY HILL. from its being less developed. The Copper, which is in the form of purple and yellow sulphurets, is found in the "nacreous" slates; and "green carbonate," associated with quartz, has been discovered in several of the outcrops, giving to the copper bearing veins a considerable wealth. Mr. Herbert Williams, who is highly esteemed by Sir William Logan, as a practical mining engineer, twice visited the property, in January and November, 1865, and reports the results of operations thus:

"No. 1 opening exhibits fair samples of purple and yellow sulphurets, associated with quartz veins.

"No. 2, distant SE. from No. 1 about 200 feet, exhibits wide bands of "nacreous" slates, carrying veins of quartz. This outcrop, for a width of 50 or 60 feet, carries some promising samples of purple and yellow Sulphurets, and, also, the green carbonate in notable quantity." Mr. Williams adds: "Adjoining this, to the SE., is the "VIGER" mining locations, upon which most promising discoveries of copper ore have been made, and are now being opened up; these dip towards, and will, I believe, be found to underlie, to a very considerable extent, the SHAW property."

In November, Mr. Williams reports: "The most important operation, since my previous visit, is the sinking of a shaft, to the depth of about 25 feet, in a band of copper-bearing schist situated to the westward of the openings referred to in my first report. This band has an average width of between 4 and 5 feet, and shows some fine and promising samples of purple and yellow sulphurets of copper, some four of which have been broken and brought to the surface. The continuation of this band, notwithstanding its being capped over in several places, is discovered by the outcrops for a distance of between 500 and 600 feet, and, combined with the very promising appearance of the shaft, warrants my recommending a more vigorous trial of the property."

The contour of the lot presents many advantages for economic mining. The high ground SE. of the Crag road will admit of mining by "adit" or "cross-cut" to a very fair depth, thus dispensing with the use of expensive machinery for many years to come. There is abundance of wood on the property for all mining purposes, as well as for fuel; and one decided advantage which it possesses over the Harvey Hill Mine, is the abundant supply of water from a river passing through the property, which will enable the ore to be dressed at a very moderate cost.

The distance of this mine from the Athabaska station on the Grand Trunk Railway is 15 miles, by a moderately good road, and the transport of materials to and from the mines to that station will not exceed $3 per ton. Athabaska station is 64 miles from Quebec, and 26 from Richmond, on the Portland route. Laborers can be found as required, and at moderate wages.

In following the course of this synclinal in a South-westerly direction, the copper bearing slates present themselves in several places, and there is no difficulty in tracing them, notwithstanding the absence of gossan, as there are other characteristics observable by which their existence is identified—one of which is the association of chloritide with the slates. The metamorphic action of the copper on the slate is characterized by some peculiar alterations whenever the copper is in contact with it. The discovery of the existence of further quantities of copper may therefore be reasonably expected.

The advantages thus offered by the "Shaw Mine" may be thus summed up:

1st. The existence of Copper ore of available richness in large quantity, and which can be easily worked for sometime by "adit."
2d. The Mine being easily accessible, and only a short distance from the Grand Trunk Railway.
3d. Cheap transport and cheap labor.
4th. Water and wood in sufficient abundance.

These all point out, that if any Copper Mine in Canada can be worked successfully, the "Shaw Mine" offers facilities, which must place it pre-eminently in that category, and encourage its owners to look forward to no distant day for returns, which must be highly remunerative.

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The Mines of the Company in Gilpin County are situate in the well-known mining districts of Gregory, Nevada, Eureka, Illinois Central, Russell, Central, Lake Gulch, Spring Gulch, etc., etc., sixteen hundred feet being upon

QUARTZ HILL,

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400 feet on the	- - - - -	King Solomon Lode.
400 "	- - - - -	Pacific "
200 "	- - - - -	Excelsior "
200 "	- - - - -	Augusta "
600 "	- - - - -	Ontonagon "
200 "	- - - - -	Cox "
600 "	- - - - -	Black "
100 "	- - - - -	Caledonia "
100 "	- - - - -	Mackie "
100 "	- - - - -	Lincoln "
100 "	- - - - -	Landon "
100 "	- - - - -	Pennsylvania "
100 "	- - - - -	Barnhill "
100 "	- - - - -	Grand River "
100 "	- - - - -	Stark County " etc.

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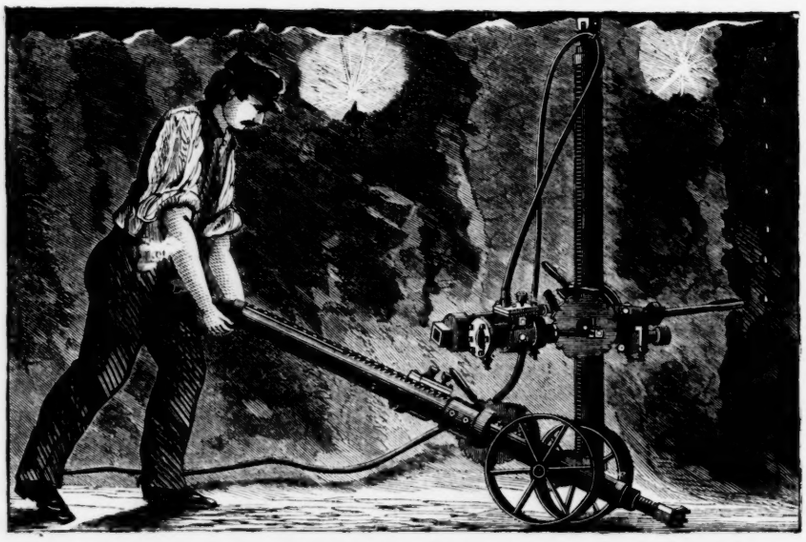

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